EFFECTIVENESS OF ASSISTED FEEDING PRACTICES ON PREVENTION OF ASPIRATION IN CEREBRAL PALSY CHILDREN AMONG CAREGIVERS IN PEDIATRIC WARD GRH MADURAI

COLLEGE OF NURSING

MADURAI MEDICAL COLLEGE, MADURAI -20.

A dissertation submitted to

THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY,

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In partial fulfillment of the requirement for the degree of

MASTER OF SCIENCE IN NURSING

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This is to certify that this dissertation titled **"EFFECTIVENESS OF ASSISTED FEEDING PRACTICES ON PREVENTION OF ASPIRATION IN CEREBRAL PALSY CHILDREN AMONG CARE GIVERS IN PEDIATRIC WARD GRH MADURAI."** is a bonafide work done by **Mrs.K. UMASOUNDARI.** M.Sc (N) Student, College of Nursing, Madurai Medical College, Madurai - 20, submitted to THE TAMILNADU DR.M.G.R. MEDICAL UNIVERSITY, CHENNAI in partial fulfillment of the university rules and regulations towards the award of the degree of **MASTER OF SCIENCE IN NURSING, Branch II, Child Health Nursing,** under our guidance and supervision during the academic period from 2015-2017.

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- Pro 3:6

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ABSTRACT

Title: Effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among caregivers in pediatric ward GRH Madurai. **Objectives:** To assess the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, G R H,Madurai. To evaluate the effectiveness of assisted feeding practices among care givers on prevention of aspiration in cerebral palsy children in pediatric ward, G R H, Madurai. To associate the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children with their selected socio demographic variables. H**ypotheses** H_1 – There is significant differences between pre test and post test level feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH, Madurai H_2- There is significant association between the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children with their selected socio demographic variables **Conceptual Framework:** Modified Imogene King's Goal Attainment Theory **Methodology:** Quantitative approach- pre experimental design one group pretest & post test design was used. The study was conducted at pediatric ward Government Rajaji Hospital; Madurai. The sample size was 40. Non Probability, consecutive sampling technique was used. The intervention applied in this study was assisted feeding technique for 30 minutes for 5 consecutive days. among caregivers of cerebral palsy children. On the 6th^h day post test was done. **Results:** The level of feeding practice in pretest and post test mean score is 4.175 and 9.725 respectively. Paired t test value is 27.42. 27.42 is much higher than the table value at $p< 0.001$ level of significance. **Conclusion:** The statistical evidence proved that the assisted feeding practices was effective in improving the level of feeding practices among caregivers of cerebral palsy children.

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Introduction

CHAPTER - I

INTRODUCTION

Disability is a matter of perception. If you can do just one thing well, you're needed by someone.

-Martina Navratilova

The birth of a child is one of the life's most natural and happy experiences. In Indian family set up, getting a child to future generation is considered as a great gift of God and every member of the family awaits prayerfully for the new arrival. The parents dream for a beautiful well formed child in all health and cheers. Children are important asset to the family and the society and they are the best resources for the nation. children are major consumers of Healthcare. About 35-40 percentage of total population are children below the age of 15 and they are more vulnerable to various health problems. Majority of child morbidity & mortality are preventable. Children need special care to survive & thrive . They are wealth of tomorrow's society & nation .Health of the children has historically been of vital important all societies. Nursing care of children is concerned with both health and illness that effect their growth and development. At this juncture, the birth of a child with a developmental need may cause serious stress for the parents and can affect each member of the family, who experiences a great amount of psychological distress; Childs dependence on others in daily activities has a significant effect on the parents and the entire family. They need extra support to deal with the situation .Children with developmental needs have difficulties with major activities such as language, mobility, learning, self help, and independent living. Difficulty of care-giving tasks,

difficult child behavior during care-giving tasks, and level of child disability are the primary factors which contribute to parent's stress and depression

Cerebral palsy as a group of permanent disorder of the development of movement and posture, causing activity limitation that are attributed to nonprogressive disturbances that occurred in the developing fetal or infant brain. (Rosenbaum paneth 2007). Cerebral palsy is divided into four major classes according to different impairments and areas of brain that are damaged. These 4 classes are **Spastic type (wong's essential pediatric Nursing (2009)** -This is the most common type of cerebral palsy occurring 80% of all cases. These children have hypertonia and neuromuscular mobility impairment, due to upper meuron motor lesion in the brain as well as corticospinal tract or motor coirtex. **Ataxic cerebral palsy** – caused by damage to cerebellum occurs in about 10% of cases. Hypotonia and tremors may be present. Wide based gait. Rapid repetitive movements performed poorly. Disintegration of movements of the upper extremities when the child reaches for objects. **Atheoid / Dyskinetic type** - Atheoid cerebral palsy involves mixed muscle tone both hypertonia and hypotonia are present along with constant involuntary writing motions. Dystonic slow twisting movements of the trunk or extremities abnormal posture. Involvement of the pharyngeal, laryngeal and oral muscle causing drooling and dysarthria) imperfect speech articulation) **Mixed type** - combination of spastic cerebral palsy and dyskinetic when no specific motor pattern is dominanat. However this term is losing favour to more precise descriptions of motor function and affected area of brain involved.

In addition to motor disorder the condition often involves disturbances of sensation, and behavior secondary musculoskeletal problem and epilepsy . In addition to motor impairment, children with cerebral palsy may also experience learning

difficulties, have difficulty feeding and have seizure conditions. Moreover, many children may experience sensory impairments and have difficulties communicating (Pellegrino, 1997; Shapiro & Capute, 1999). These include an inability to speak or to recognise voices and an inability to interact with peers. The presence and severity of seizures, cortical blindness, incontinence and severity of physical disability are also associated with increased mortality (Katz, 2009). Problems can occur at joints due to the muscle spasms which can lead to spine and hip deformities. Nutrition problems - Swallowing or feeding problems can make it difficult for someone who has cerebral palsy, particularly an infant, to get enough nutrition for growth and development as they use far more calories for any movement than those without cerebral palsy. Finding a suitable diet is therefore critical. Mental Health Issues such as depression, social isolation and body image and the challenges of coping with disabilities can contribute to the difficulties faced by young people with cerebral palsy. This is very much a personal experience as many children cope very well. Osteoarthritis - Pressure on joints or abnormal alignment of joints from muscle spasticity may result in the early development of osteoarthritis.

Orofacial muscles temporalis, masseter, one of the muscles of the mastication, it is a jaw muscle, and serves primarily to elevate the mandible while deep tissues help to protrude it forward. - zygomaticus, drawing the mouth' angle upward and outward starts the cheekbone extends to cornr of the mouths orbicularis oris, - encircles the mouth buccinators – maxilla and mandible angle of the mouth. It forms the muscular base of the cheek. Levator labil superioris muscle above the infra orbital foramen upper lib. Depressor labil inferioris mandible underneath the mental foramen. Mentalis muscle forms the furrow between the chin and lip. These orofaial muscles are the main role of feeding and swallowing abilities to the human.

As a for mentioned, many of these disabilities are experienced by individuals with cerebral palsy. Mental retardation is associated with cerebral palsy other associated handicapped condition orthopedic deformities, partial or complete deafness, blindness and psychological disturbances. The prevalence rates is about 4 per 1000 live births .

The scope of the child needs requires multidisciplinary plan. The outcome for the child and family with cp is normalization and promotion of self care activities that empower the child and family to achieve maximum potential. The pediatric nurse often has the initial therapeutic relationship with the family of children with neurogenic disorders. This may be in the hospital, the pediatrician's office, or through home-health services. Because of the trust that develops through this relationship, the information given by the professional nurse is attended to and valued by the family. Through their recommendations then, nurses have a unique opportunity to influence the development of the child's feeding behaviors. These recommendations should be an outgrowth of thorough understanding of the deficits that interfere with successful feeding and realistic modifications that can help remediate them. Knowledge regarding posture and its influence on the feeding/swallowing process will enable the nurse to provide recommendations that enhance the safety of feeding and may help the child progress to more developmentally mature stages of oral control.

Feeding and eating are important activities that allow individuals to maintain adequate nutrition. Feeding is the term used for offering nutrition to some one who is not able to eat independently while eating refers to the act of taking food independently Both feeding and eating are social activites that may reflect important aspects of a children’s culture. Feeding are very complex processes that involve the use and co-ordination of many muscles. When children have an injury or a disorder

that affects their nervous system and muscles their ability to eat (or to fed) can be affected. Oral feeding is the process of taking food by mouth- this is the ultimate goal of feeding intervention because it is what we typically do in our daily lives. The process of oral feeding and swallowing is described by stages. First the food is chewed and is moved to the back of the moth- **oral phase.** When the food reaches the back of the mouth into the pharynx (throat) a swallow is triggered. sucking, chewing, and moving food or liquid into the throat.

Pharyngeal phase work to close off the airway and direct the food toward the esophagus, the tube that leads to the stomach. A swallow is safe when all of the food goes into the esophagus, it is moved to the stomach by muscle movements called peristalsis starting the swallow, squeezing food down the throat, and closing off the airway to prevent food or liquid from entering the airway (aspiration) or to prevent choking..

Esophageal phase... – relaxing and tightening the openings at the top and bottom of the feeding tube in the throat (esophagus) and squeezing food through the esophagus into the stomach Young infants generally receive all of their nutrition from liquid, As they develop they are introduced to smooth pureed solid food.

Gradually they are able to handle thicker purees and foods that are easy to chew. By two years of age children are typically able to eat foods similar in texture and quality to adult diets with some modifications for safety. This progression of food types is related the child's developing abilities to coordinate the muscles that are used for chewing , swallowing and breathing. The sensory aspect of eating which includes taste, temperature, and texture,. Most children with severe Acute brain injury will have feeding difficulties in the early stages of recovery. . They will have difficulty managing many of the stages of eating.. Safety is a major concern because the child

may be at risk of choking or aspirating (having the food or liquid go down the wrong way into the airway and lungs) during eating which may cause aspiration pneumonia. Reduced muscle coordination and difficulty with food manipulation in the mouth delayed triggering of the swallowing reflex, and poor movement of food through the mouth and pharynx. The majority of children with neurological impairment who aspirate have an intact swallowing reflex. Feeding problems are most likely due to poor coordination of the tongue, lips, cheek, and larynx. (morris,1989,Leopold 1983) They also found that children who aspirated pureed consistencies had a greater risk for pneumonia than comparable children. Who did not aspirate this consistency. Children who aspirated only thin fluids have increase in pneumonia risk. A primary goal of feeding interventions and programs is to ensure that the child can eat safely with out choking or getting food in their airway (aspirating) once safety is established therapy focuses on increasing the amount and range of foods a child can eat with the goal of feeding programme..

Observation during the feeding

The child (including oral motor function, muscle tome posture, sensory response, feeding behavior, Physical environment like chair table feeding, utensils., social environment like parent child interactions.

Different food textures can cause different responses in a child and changing the food's texture can make a difference in a child's ability to manage food in children's mouth and swallowing. Liquids which move quickly through the mouth and throat can pose a major problem for infants and children who have difficulty in co-ordination of breathing and swallowing. Chewing involves coordinated jaw, lip, cheek, and tongue movements. Evaluate the use of food texture as an intervention to improve oral intake .

Posture and Normal Feeding

Alignment of the oral structures for feeding is related to head and trunk stability (Bosma, 1972, 1986; Langley & Thomas, 1991; Robbins, 1992). It is well documented that the child's head position influences the swallow during feeding and reduces the risk of aspiration (Larnert & Ekberg, 1995; Logemann, 1998). The recommended head posture for safe swallow is a "chin tuck." The head is upright, in midline, with neck flexion, so that the chin is directed slightly downward and inward. Head position is dependent on trunk control (Herman & Lange, 1999; Langley & Thomas, 1991; Seikel, King, & Drumwright, 2000). To achieve this alignment of the head with the trunk, the pelvis must be stabilized. This has important consequences for the entire process of swallowing. If the head is not stable, then the fine movements of the jaw and tongue needed for feeding will be impaired. Aspiration may be more likely because an extended head position affects the relationship between the physical structures of respiration and gravity. This then affects the coordination needed for swallowing and breathing. Therefore one of the nurse's goals of patient care should be the alignment of the head to an ideal position for safe swallowing. Children with cerebral palsy (CP) commonly have feeding disorders and swallowing problems (dysphagia) that in many instances place them at risk for aspiration with oral feeding, with potential pulmonary consequences. They also commonly have reduced nutrition/hydration status and prolonged stressful meal times. The specific nature and severity of the swallowing problems may differ, at least to some degree, in relation to sensorimotor impairment, Children with generalized severe motor impairment (for example, spastic quadriplegia) are likely to experience greater swallowing deficits than those with diplegia, but oropharyngeal dysphagia is prevalent even in children with mild CP. Concerns are multifactorial and include issues of reduced

volume of food and liquid consumed orally, nutrition deficits, inadequate hydration and limited range of textures with slow advance of oral skills.

Children with moderate-to-severe dysphagia usually are managed most effectively with an interdisciplinary team that allows for multiple factors to be addressed in a coordinated way. These factors include, but are not limited to, gastrointestinal issues, pulmonary status, nutrition/hydration, oral sensorimotor skills, behavioral issues and family interactions. The importance of a structured approach is stressed to handle these multiple problems. It is critical that all decisions for the management of feeding and swallowing problems are made in consideration of the primary needs of the child that is, a stable airway with adequate nutrition and hydration. In addition, any feeding/swallowing intervention should be pleasurable and non-stressful for patients and care givers. In some instances, tube feeding may be needed either temporarily or long term. It is expected, with rare exceptions, that these children can cope with at least minimal tastes for pleasure, a practice that may have a positive impact on management of saliva/secretions while maintaining oral function and swallowing.

Types of swallowing and feeding problems in children with cerebral palsy.

Oropharyngeal dysphagia may be characterized by problems in any or three phases of swallowing. The types of oral and pharyngeal problems that children with CP have include reduced lip closure, poor tongue function, tongue thrust, exaggerated bite reflex, tactile hypersensitivity, delayed swallow initiation, reduced pharyngeal motility and drooling. Impaired oral sensorimotor function can result in drooling that in turn results in impaired hydration. Problems with liquids are common and usually relate to a timing deficit with delayed pharyngeal swallow initiation. Problems with thick smooth, lumpy or mashed foods relate to residue in the pharynx when

pharyngeal motility is reduced. Residue can spill into the open airway after swallows. Children may appear to handle thicker food and liquid more easily, as they have more time to initiate a swallow, but not in all instances. Pharyngeal motility is not possible to define pharyngeal physiology of swallowing by clinical feeding/swallowing evaluations or simply by observation of children while they are eating and drinking. The bolus size can be manipulated for safety in some children. Small boluses are easier for many children than large ones, although the opposite may be true for others. Children with CP frequently need more time to complete feeding tasks, but caution is urged as fatigue may become a factor, as well as reduced attention to the task. Meal times longer than 30 min, on a regular basis, often signal a feeding/swallowing problem .Feeding disorders may present as inadequate growth, prolonged feeding times, delayed progression of oral feeding skills and/or recurrent respiratory disease. Children with CP have dysphagia caused by a central nervous system disorder in which passive tone is variable (hypertonia common with spastic CP), active tone is normal or mildly decreased and primitive reflexes may be strong and persistent. Although children with neurological-based dysphagia may not produce a gag upon stimulation, they may be appropriate for oral feeding. There is no direct relationship between gag and swallowing ability. Chronic aspiration is of concern in this patient group and may be difficult to delineate when there is no cough response to aspiration events. Hypoxemia may occur during oral feeding. The risk of aspiration in children with CP can decrease over time as developmental gains are made, although it is not unusual for children to show increased signs of dysphagia Further, the risks of aspiration complications are dependent partially on the initial condition of the child.

Feeding difficulties and Intervention

Individuals with Cp frequently have feeding and swallowing problems that may leading to poor growth failure, chronic aspiration, oesophagitis and respiratory infection. Across the cerebral palsy spectrum, ranging from inadequate intake, oral dysphagia oral pharyngeal dysphagia gastrooesophageal reflux, chronic aspiration behavioural etiologies, , some children with oralpharyngeal dysphagia, gastro oesophageal reflux GER), particularly those with severe CP, are also at risk for recurrent aspiration, which can lead to chronic pulmonary disease.. Caregiver burden is a significant concern as the feeding process may require considerable time and may be associated with stress and caregiver fatigue stress and fatigue may in turn affect the feeding process. A number of feeding and oral-motor intervention strategies have been developed to address difficulties with sucking, chewing, swallowing, and improve oral-motor skills. Strategies include oral sensorimotor management, positioning, oral appliances, food thickeners, specialized formulas, and neuromuscular stimulation. These interventions address different aspects of feeding difficulties, reflecting the range in specific problems associated with feeding and nutrition in CP. Sensorimotor techniques seek to strengthen oral-motor control and counteract abnormal tone and reflexes to improve oral feedings, and typically require months of daily application. Positioning techniques address poor postural alignment and control that exacerbates swallowing difficulties, and include stabilizing the neck and trunk. Positioning interventions are individualized and often guided by video-fluoroscopy to optimize swallowing. Oral appliances have been used to stabilize the jaw, improve sucking, tongue coordination, lip control, and chewing. Multiple approaches may be used in cerebral palsy children. For feeding intervention. Spastic cerebral palsy is the most common type, occurring in 70 to 80 per cent of all cases. In some cases it affects

one side of the body, in few spastic cases, all four limbs are affected equally,. There are an estimated 25 lakh people in India with cerebral palsy. According to World Health Organization (WHO) estimation, 10% of the global population has some form of disability due to different causes; in India, it is 3.8% of the population. Nearly 15-20% of the total physically handicapped children suffer from Cerebral Palsy (CP).

About 764,000 children and adults currently have Cerebral Palsy About 500,000 children under age of 18 currently have Cerebral PalsyAbout two to three children out of every 1,000 have Cerebral Palsy (United States studies have yielded rates as low as 2.3 per 1,000 children to as high as 3.6 per 1,000 children)About 10,000 babies born each year will develop Cerebral Palsy.Around 8,000 to 10,000 babies and infants are diagnosed per year with Cerebral Palsy .Around 1,200 to 1,500 preschool-aged children are diagnosed per year with Cerebral Palsy The worldwide incidence of CP is approximately 2 to 2.5 cases per 1000 live births In India, it is estimated at around 3 cases per 1000 live births; however, being a developing country the actual figure may be much higher than probable figures. There are about 25 lakh CP children in India as per the last statistical information It is a symptom complex or syndrome condition rather than a single disease. It is an umbrella term encompassing a group of non-progressive, non-contagious condition that causes motor impairment syndrome characterized by abnormalities in movement, posture, and tone

1.1 Need for the study

“ If you know some one with cerebral palsy or a disability make sure we need patient, understanding and helpful. Treat them with kindness and equality be their friend.”

Children with cerebral palsy have developmental disorders of movement and posture causing activity limitation**.** Such disturbances result in a developmental delay

can also affect the development of oro facial organs providing inadequate performance the functions of sucking chewing, swallowing and respiratory changes. In children with CP the righting and balance reactions necessary to maintain posture and head control are incomplete. The functional performance of the CP is connected to the motor impairment and there may be involvement of the orofacial muscles. Understanding the changes of posture and movement during chewing task assist in targeting intervention measures to the CP children.. They present with abnormal muscle tone and reflexes that compromise feeding. The resulting oral sensorimotor deficits interfere with the oral processing of food. Frequent aspiration, of course, is but a symptom of underlying pathophysiology. Oral-motor and lingual incoordination (Arvedson & Brodsky, 2002; Daniels, Brailey, & Foundas, 1999); poor coordination between breathing and swallowing (Couriel, Bisset, Miller, Thomas, & Clarke, 1993); and poor alignment of head, neck, and trunk (Arvedson & Brodsky, 2002; Larnert & Ekberg, 1995) may be underlying causes of aspiration in children with cerebral palsy. Due to their neurological impairments, a further and significant risk for children with CP during feeding, is the aspiration of food into the lungs due to an inadequately protected airway during swallowing (referred to as an incomplete swallow), coupled with a poor cough reflex. The usual causes of an incomplete swallow are a delayed or absent swallow reflex (Yokochi, 1996), decreased or poorly coordinated pharyngeal motility (Mirrett et al., 1994) and/or difficulties caused by poor stability of sitting position, head posture, jaw control, mouth posture, lip control, tongue control and slow oral transit times (Selley et al., 2001). Significant levels of aspiration during feeding have been reported in several studies of severely eating-impaired children (Helfrich-Miller, 1986; Rogers et al., 1994), with liquids aspirated more frequently than solids, and the frequency of aspiration increasing with the severity of the eating

impairment (Mirrett et al., 1994). Aspiration is often symptomised by coughing, however, using videofluoroscopic assessment, Mirrett et al. (1994) revealed that 68.2% of 22 patients with severe spastic CP (aged 7 months-19 years) demonstrated significant silent aspiration (ie. where a cough response was absent). Apart from causing distress from aspiration (Sullivan et al., 2000), aspiration is known to predispose children to the development of recurrent chest infections and chronic lung disease (Berquist et al., 1981; Loughlin and Lefton-Greif, 1994; Dahl et al., 1996; Sullivan et al., 2000; Reddihough et al., 2001). 31% of the children in the Oxford Feeding Study (Sullivan et al., 2000), had suffered at least one chest infection in the previous six months, and a significant correlation was seen between the number of chest infections and the severity of the motor impairment.

There are many things will help to reduce/prevent complications during feeding in child with oral motor dysfunction. Make the child is in appropriate state for eating.is the most important rule for planning a feeding programme. Keeps the child relaxed and facilitates lips together, head coming forward, and hands moving toward child's mouth. observe the child whether the child is crying struggling, increased muscle tone, fear or avoidance patterns of head turning, lip retraction, grimacing or tongue thrusting,. Jaw opening or head tilted back. as there are specific therapeutic techniques designed to assist with these problems and normalize the feeding process. Develop a rhythm for feeding if food is given too slowly the child may lose interest in eating once initial hunger is satiated. Jaw stabilization can be achieved through contraction of the muscles controlling movement of the temporo mandibular joint, to identify know the child's oral motor capabilities.

Additionally, children with CP often exhibit hyperextension of the head and neck due to increased muscle tone. Such hyperextension may also lead to tongue

retraction (Larnert & Ekberg, 1995), jaw depression (Bosma, 1992; Langley & Thomas, 1991), airway interference (Couriel et al., 1993), and a predisposition to aspiration (Carroll & Reilly, 1996; Ekberg, 1986).. This then affects the coordination needed for swallowing and breathing (Seikel et al., 2000) (see Figure 2). Therefore, one of the nurse's first goals of patient care should be the alignment of the head to an ideal position for safe swallowing.

Cerebral palsy children commonly have feeding disorders and swallowing problems that many instances place them at risk for aspiration with oral feeding with potential pulmonary consequences. Oral feeding technique of interventions for children with cp may promote oral motor function its to be effective in promoting feeding efficiency..

Cerebral palsy (CP) is the leading cause of chronic disability in children, making them physically and mentally handicapped and socially aloof.. Cerebral palsy is characterized by abnormal muscle tone, reflexes, or motor development and coordination. There can be joint and bone deformities and contractures (permanently fixed, tight muscles and joints). The classical symptoms are spasticity, spasms, other involuntary movements (e.g., facial gestures), unsteady gait, problems with balance, and/or soft tissue findings consisting largely of decreased muscle mass. cerebral palsy children may not be able to chewing and swallowing due to sensory and motor impairments. Cerebral palsy children may have too little or too much sensitivity around and in the mouth.

Recurrent aspiration

Oropharyngeal motor problems

Swallowing is a complex process involving a sequence of intricate timed manoeuvres by a large number of muscles (including mouth, pharynx, larynx,

oesophagus, and diaphragm). It is not surprising that this choreography is profoundly disturbed by muscle weakness in neuromuscular conditions and by dystonia and poor coordination in cerebral palsy. . Failure of proper bolus formation, oesophageal peristalsis, glottic closure, and “turn taking” between swallowing and breathing leads to recurrent aspiration of solids and liquids during feeding. Thin liquids are particularly prone to be aspirated Even between feeds, there is likely to be recurrent aspiration of non-sterile oral and upper respiratory secretions into the (normally sterile) lower airways because of inadequate protective reflexes**.** When a child is unable to exercise in a manner that causes deep breathing, air passages are more likely to become infected and the muscles used for breathing aren’t fully exercised .If children experience trouble controlling muscle function and have feeding or swallowing difficulties, they may also be unable to cough up material left in the passageways, which can contribute to infection. If a child has a structural deformity, such as curvature of the spine, muscle tone and gravity may contribute to chest wall deformity, which, in turn, can lead to restricted lung function and the potential for unequal lung expansion.. If the child is unable to control and coordinate facial muscles – properly sealing lips around a mouthpiece,. Difficulty in swallowing and feeding can lead to the inhalation of food particles**.**

Dysphagia can happen to anyone at any age, children with cerebral palsy are more susceptible because the disorder affects the central nervous system. Many children with cerebral palsy also have brain damage, another issue that affects their ability to swallow properly. food choices and helping children learn different swallowing techniques. For example, foods can be pureed so that your child can swallow easier and thicker liquids to drink is encouraged.

Feeding disorders include problems gathering food and getting ready to suck, chew, or swallow it. For example, a child who cannot pick up food and get it to her mouth or cannot completely close her lips to keep food from falling out of her mouth may have a feeding disorder. Swallowing disorders, also called dysphagia can occur at different stages in the swallowing process: Children with feeding and swallowing problems have a wide variety of symptoms. Not all signs and symptoms are present in every child.

Feeding and swallowing problems in cerebral palsy children a reaching or stiffening of the body during feeding, .irritability or lack of alertness during feeding, refusing food or liquid failure to accept different textures of food (e.g., only pureed foods or crunchy cereals)long feeding times (e.g., more than 30 minutes) difficulty chewing difficulty breast feeding coughing or gagging during meals ,.excessive drooling or food/liquid coming out of the mouth or nose difficulty coordinating breathing with eating and drinking increased stuffiness during meals gurgly, hoarse, or breathy voice quality frequent spitting up or vomiting recurring pneumonia or respiratory infections less than normal weight gain or growth As a result, children may be at risk for: aspiration (food or liquid entering the airway) or penetration, pneumonia or repeated upper respiratory infections that can lead to chronic lung disease embarrassment or isolation in social situations involving eating. Assisted feeding practices will making the muscles of the mouth stronger increasing tongue movement ,improving chewing ,increasing acceptance of different foods and liquids ,improving sucking and/or drinking ability ,coordinating the suck-swallow-breath pattern (for infants) altering food textures and liquid thickness to ensure safe swallowing feeding/swallowing intervention should be pleasurable and non-stressful for patients and care givers. In some instances, tube feeding may be needed either temporarily or

long term.[5, 6, 7, 8]It is expected, with rare exceptions, that these children can cope with at least minimal tastes for pleasure, a practice that may have a positive impact on management of saliva/secretions while maintaining oral function and swallowing Feeding disorders may present as inadequate growth, prolonged feeding times, delayed progression of oral feeding skills and/or recurrent respiratory disease. Children with CP have dysphagia caused by a central nervous system disorder in which passive tone is variable (hypertonia common with spastic CP), active tone is normal or mildly decreased and primitive reflexes may be strong and persistent. Although children with neurological-based dysphagia may not produce a gag upon stimulation, they may be appropriate for oral feeding. There is no direct relationship between gag and swallowing ability.. Feeding disorders include problems gathering food and getting ready to suck, chew, or swallow it. For example, a child who cannot pick up food and get it to her mouth or cannot completely close her lips to keep food from falling out of her mouth may have a feeding disorder. Swallowing disorders, also called dysphagia can occur at different stages in the swallowing process: Children with feeding and swallowing problems have a wide variety of symptoms. Not all signs and symptoms are present in every child.

Chronic aspiration is of concern in this patient group and may be difficult to delineate when there is no cough response to aspiration events. Hypoxemia may occur during oral feeding.

A feeding time of >30 min and/or absence of weight gain for 2–3 months could be a sign of a problem in young children, particularly in the first 2 years of life. Stressful mealtimes are likely to exacerbate feeding/swallowing problems and can cause further stress to care givers and children. A gurgly voice quality indicates secretions in the laryngeal vestibule that could be aspirated and contribute to respiratory problems. Clearly, a history of respiratory illnesses that could be related to oral feeding requires in-depth exploration.

oral feeding interventions for children with CP may promote oral motor function, but these interventions have not been shown to be effective in promoting feeding efficiency or weight gain. **Scianni *et al***. examined muscle strengthening in children and adolescents with CP (which did not include oral motor muscles), these findings suggest that techniques that propose to strengthen the lip, tongue and jaw muscles that are often included in oral-motor herapy should be critically evaluated.

Recognised interventions for children with cerebral palsy and feeding difficulties usually involve dietary treatments, the use of compensatory feeding strategies, remedial feeding therapy. Dietary treatments include the introduction of a high calorie diet and food supplements given orally or enterally. Compensatory strategies include positioning the child in a particular way ('postural alignment'), preparing food to a particular texture/consistency, the use of specific of feeding utensils and adjusting the amount given per mouthful and the speed of delivery. Remedial therapy refers to the introduction of sensorimotor exercises of the lips, tongue and cheeks, and exercises to practice chewing, aimed at improving oromotor skills for feeding. Texture/ Consistency of food - Mashed foods safer than solid food & swallowed more quickly.. positioning - positive effect on feeding safety & efficiency by decreasing risk of aspiration Adaptive equipment. gains in skills to begin self-feeding . oral appliances/feeding devices - Food intake & weight were maintained using an electric feeder, but eating efficiency reduced; improvements in some components of oral-motor behavior with consistent food presentation, but not necessarily maintained at follow-up. Swallowing techniques may include face and jaw muscles exercises carried out by. Researcher. Chin tucking is another technique that helps children with swallowing. It consists of helping the child position his/her chin correctly which can assist in making swallowing easier considering the above facts the researcher motivated to do the study on assisted feeding practices.

1.2 Statement of the Problem

A study to evaluate the effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among caregivers in pediatric ward, GRH, Madurai.

1.3 Objectives

1. To assess the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward GRH ,Madurai.
2. To evaluate the effectiveness of assisted feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH, Madurai.
3. To associate the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children with their selected socio demographic variables.

1.4 Hypotheses

H_1 – There is significant differences between pre test and post test level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward GRH, Madurai

H_2- There is significant association between the level of feeding practices on among caregivers on prevention of aspiration in cerebral palsy children with their selected socio demographic variables.

1.5 Operational definitions

Effectiveness

In this study it refers to the outcome of assisted feeding practices among caregivers on prevention of aspiration which is measured by using observation checklist.

Assisted Feeding practices

In this study it refers to Demonstration of the various assisted techniques such as positioning, jaw control support, perioral massage, oral stimulation, stroking the throat, lip closure, types of food , consistency of foods, care of the child after feeding for 30 minutes to 40 minutes that are taught to the care givers while feeding the cerebral palsy children.

Prevention of risk of aspiration in cerebral palsy children

In this study it refers to avoiding the risk of aspiration/regurgitation of food particles by following the assisted feeding practices such as therapeutic seating and oral control to enhance postural alignment and improve oral functioning for safe intake of food, and it will be assured by observation checklist.

Care givers

In this study it refers to those who are taking care of cerebral palsy child.

Cerebral palsy children

In this study it refers to the those who are having neuro motor impairment associated with the oromotor dysfunction in the age of 1 year to 6 years of children.

pediatric ward

In this study it refers to medical surgical wards in institution of child health and Research centre Government Rajaji Hospital, Madurai where children are treated for various disease and disorders.

1.6 Assumptions

Care givers may practice different level of feeding technique while feeding in cerebral palsy children.

1.7 Delimitations

The study limited children with those who are admitted at pediatric ward.

1.8 Projected Outcome

Caregivers will prevent the risk of aspiration in cerebral palsy children through the assisted feeding practices.

CHAPTER -II

REVIEW OF LITERATURE

Literature review is standard requisition of scientific research. It means reading and writing the pertinent information of the attempt in research topic. It also support and explain why the proposed topic is taken for research and avoids unnecessary duplication explore the feasibility and illuminate the way of new research.

Review of literature is a key step in research process. Nursing research may be considered as a continuing process in which knowledge gained from earlier studies is an integral part of research in general. In review of literature a researcher analysis existing knowledge before delivering into a new study and when making judgement about application of a new knowledge in nursing practice. The literature review is an extensive, systemic and critical review of the most important published scholarly literature on particular topic.

Section-I- Review of literature.

Section II – Conceptual frame work.

Section -I Review of Literature.

- **2.1 Literature related to cerebral palsy children**
- **2.2 Literature related to feeding problems in cerebral palsy children.**
- **2.2 Literature related to feeding intervention of cerebral palsy children**.

2.1 Literature related to cerebral palsy children

Carol Singogo (2015) conducted a qualitative study to explore the challenge that mothers who cared for children with cerebral palsy (CP) living in Zambia. . Mothers experienced social isolation and marital problems, as well as negative attitudes from family, friends, community members and health care professionals. The physical environment created access challenges because of a lack of sidewalks, ramps, functioning lifts and small indoor spaces. The study reveals that the social isolation was exacerbated by attitudes of others towards the mothers; it was felt that mothers were responsible their children's condition. child with CP.

Jackle parckers et.al. (2011) conducted a cross sectional survey to describe the health of children with cerebral palsy and investigate predictors of stress in their parents. using standard questionnaires was administered among children and parents. respectively .A total of 102/199 (51%) children and parents participated. The children were compared with a normative sample. . Children with cerebral palsy had poorer physical health, and 79% of parents reported that their child had moderate to severe pain. The study reveals that their poorer health, in comparison with the normal sample and measured by the Child Health Questionnaire, was related to feeding problems and seizures, general health perceptions to intellectual and feeding impairment, and family activities with severe motor, intellectual and feeding impairment. Results showed that Children with psychological problems had statistically significantly increased odds (OR = 7·2, 95% CIs 2·6–20·3) of having parents with high stress. Children with cerebral palsy and associated impairments are at higher risk of poorer health and family well-being. A family-centred approach to the care of children with cerebral palsy and their families is essential to ensure both receive adequate care and support.

D. W. Tessier (2014) conducted a descriptive analysis study to explore physical symptoms correlates with psychosocial quality of life (QOL) among pediatric patients with CP. . A sample of 53 caregivers of children with CP was surveyed and health status information was extracted from patient medical records. The study reveals that Child psychosocial QOL decreased with increasing comorbidity but was not associated with CP symptom severity or any measured demographic factors. Reporting high levels of family centered care (FCC) was associated with higher psychosocial QOL in univariate analysis but was not significant when controlling for comorbidities . Results showed that there is no clear connection between symptom severity and psychosocial QOL in children with CP. Comorbidity however is strongly associated with psychosocial QOL.

Mc nullaough (2013) conducted a longitudinal clinical survey **t**o describe the health status of 4–17 year olds with ambulant CP, compare with the general population and identify factors predicting change in health over time in regional hospital-based Gait Analysis laboratory.. Those aged 4–17 years and able to walk at least 10 m independently were identified from a case register of people with CP. A total of 184 subjects took part (38% of all eligibles in the region); 154 (84%) returned for a second assessment on average 2.5 years later. The Child Health Questionnaire (Parent-form-50) was completed by 184 parents at time 1, and 156 at time Results showed that Children and young people with CP have significantly poorer health across a number of domains when compared to children in the general child population. Over time improvements occurred in behaviour ($p = 0.01$), family activities ($p < 0.001$) and physical functioning ($p = 0.05$). Linear regression showed that gross motor function ($p < 0.001$) and cerebral palsy subtype ($p < 0.05$) were associated with changes in physical functioning; age was associated with changes in

behaviour ($p = 0.007$) and family activities ($p = 0.01$); and communication ability was significantly associated with changes in family activities ($p = 0.005$).Finally concluded in this study was children and young people with CP have poorer health than their able bodied peers but relatively stable health over 2.5 years. Where change occurred, it was for the better.

Redford Donna (2012) conducted a study to reported quality of life and health related quality of life of children with cerebral palsy.: The study reveals that Eight eligible studies were identified. Five achieved a rating of 'good', the remaining three achieved ratings of 'fair' methodological quality. that when physical well-being is not measured, overall health related quality of life appears similar for children with cerebral palsy and their peers. Results showed that physical well-being impacts on health related quality of life of children with cerebral palsy. Additional influences on health related quality of life are incontinence, gross-motor function, school environment and SES (socio-economic status)..

2.2 Literature related to feeding problems in cerebral palsy children.

Shardhha Diwan Jasmin Diwan (2016) conducted a prospective survey to find out the magnitude and extent of feeding dysfunction in patients of CP. 33 sample children taken from purposive sampling technique with confirmed diagnosis of CP (7 – 96 month) were assessed for oromotor functions & interview of parent was taken for detailed feeding history and feeding habits.. Feeding skill assessment was based on Gisel and Patrick's feeding behavior skill score. Score of 4 or less was regarded as normal, score of 5-8 was defined as marginal problem & score of 9 or more was regarded as inadequate feeding skills.. Results showed that Maximum inadequate feeding skills present in spastic quadri CP (75.0%) & with GMFCS V. Problems found were sucking and swallowing problems, inability to self feed (48.5%), prolong

feeding time (mean feeding time was 22.42 minutes, SD = 13.44 confidence interval (95%), improper feeding positions, coughing and chocking during feeding (6.1%), vomiting (3.0%), recurrent chest infections, oral motor dysfunction, drooling, cry / strong extensor thrust during feeding. This study concluded that problems are present with feeding & growth which can be related to an inadequate food intake, resulting from self-feeding impairment &oromotor dysfunction.

J C Arvedson (2015) conducted a Randomized controlled trials to 12 electronic bases focused on children with cerebral palsy (CP) are at risk for aspiration with oral feeding with potential pulmonary consequences,.., Empirical data are needed. Results showed that found only five randomized controlled trials in their review of 12 electronic databases Oral sensorimotor interventions were compared in two studies involving children with CP The study reveals that Oral feeding interventions for children with CP may promote oral motor function, but these interventions have not been shown to be effective in promoting feeding efficiency or weight gain, examined muscle strengthening in children oral motor muscles, these findings suggest that techniques that propose to strengthen the lip, tongue and jaw muscles that are often included in oral-motor therapy should be critically evaluated. Data at higher levels of evidence than case studies or case series are needed for all types of interventions clinical and instrumental evaluation, management decision making and evidence of effectiveness of interventions.

Malarine Adams (2015) conducted a true experimental study to evaluate the effectiveness of a training programme to improve the feeding practices of carers of children with CP, observing the impact on level of, risk of aspiration and distress caused to both during feeding in bangaledesh Thirty-seven caregivers and their children aged 1-11 with moderate-severe CP and feeding difficulties were invited to a

six-session training programme. Pre and post measures (quantitative and qualitative) were taken during home visits in addition to giving brief advice. A control phase was evaluated for 12 of the participant pairs whilst awaiting training. A minimum of four training sessions was successful in significantly improving children's maximizing independence in feeding, improving the experience of mealtimes for both child and caregiver, decreasing caregiver stress regarding their child's feeding difficulties and improving child levels of cooperation. Catch-up growth was observed in 26% of the children. Finally the study concluded that a significant difference in the outcomes between advice only and groups was observed. Careers in Bangladesh, who have minimal formal education and live in abject poverty are able to change care-giving practices significantly after four training sessions, with positive consequences for both child and caregiver.

Kelly cristine Schmidt et. al. (2014) conducted a randomized control study was to analyze the electrical activity of Masseter and Temporalis muscles and the pattern of posture and movement of the head and jaws of children with cerebral palsy (CP). the sample comprised 32 volunteers with spastic CP and with normal development, with ages ranging from 7 to 13 years of age, This study reveals that evaluated the position and movement of the head and jaw and electrical activity of Temporalis and Masseter muscles by means of kinematic and electromyography results showed that in the CP group, there was greater asymmetry of the temporalis muscle ($p<0.05$), more head extension at maximum mouth opening ($p<0.05$), greater range of head extension ($p<0.01$) and greater range of anterior projection of the head ($p<0.05$) the greater asymmetry in muscle activity, the greater extension and projection of the head during the chewing cycle can be causes of disorders of the oral motor function of children with CP.

Birgit Filipiak anne zeutavem (2014) conducted a prospective study to assess the association between the introduction of solid foods in the first 12 months during the first 4 years of life. Data were taken from annually administered questionnaires from a comprised of an intervention and a nonintervention group.. From the 5991 recruited infants, 4753 (79%) were followed up. The 2 study groups were different in their family risk of feeding practices. Results showed that no association was found between the time of introduction of solids or the diversity of solids In the nonintervention group, a decreased risk was observed for avoidance of soybean/nuts, and avoidance of egg in the first year. The evidence from this study supports neither a delayed introduction of solids beyond the fourth month nor a delayed introduction of the most potentially allergenic solids beyond the sixth month of life for the prevention of risk of aspiration

Seray Nural sigan et. al., (2013) conducted a randomized prospective study to assess the effect of oral motor therapy on oral functions and neuromotor development in children with CP in Istanbul University. This study reveals that CP may affect oral motor skills, , drooling and difficulties with sucking, swallowing, and chewing sample was randomized, consecutively chosen 81 patients aged 12-42 months that were diagnosed with CP, who answered positively to having at least one or more problems of oral motor functions such as sucking, chewing, swallowing, drooling and independent feeding.. Forty one patients made up the training group, while the other 40 served as the control group. All patients continued to receive routine physiotherapy guided by Istanbul University results showed that the average patient age was 24.32 months ± 10.86 months in the training group and 28.15 months ± 10.22 months in the control group. In the training group, 62.25% of patients were female (n = 25) and 37.5% were male (n = 15); in the control group, 50% were female

(n = 20) and 50% were male (n = 20). This study concluded that there was no significant difference between groups in terms of sex, age, clinical types of CP and initial presence and types of oral motor difficulties (P > 0.05). Prior to therapy, no significant difference was found between groups in terms of tongue, jaw and mouth function, swallowing difficulties, severity of drooling, and tolerated food texture (P > 0.05). The average pre-therapy FFA and BSID-II scores did not vary significantly between groups (P > 0.05).

Amirtha Lourdu Mary I (2013) conducted a quasi experimental study to assess the prevention of risk of aspiration aspects may help them to maintain their health status non equivalent control group design was adopted for this study. There were 30 caregivers, 15 in each control and experimental groups were selected. non probability purposive sampling technique the samples were selected and assessed by means of a structured questionnaire and observation check list. Health education cum demonstration on feeding practice of cerebral palsy children was given to the experimental group. This study reveals that they are at risk because of oral, pharyngeal or esophageal dysphagia.oral motor dysfunction (OMD), aspiration ,difficulties that may deteriorate their health status. The data was analyzed by means of descriptive and inferential statistics results showed that the care-givers of CP children had moderately adequate knowledge and feeding practice during the pre-test. The experimental group gained more knowledge score than the control group of caregivers in the post-test. This is proved by‘t’ test (n = 30) = 16.22 (p<0.01). Finally concluded that the health education and demonstration on feeding practices was found to be effective and the care-givers improved their feeding practice and reduced their feeding difficulties and problems to their children .Research hypothesis

stated was accepted. It was concluded that there is a need to improve the knowledge and practice of feeding the cerebral palsy children among the care-givers.

Fran Redstone; Joyce F. West et. al. (2012) conducted the prospective study to assess the Children with cerebral palsy and other neurodisabilities often have decreased postural control that exacerbates their feeding/swallowing disorders.. In the child with cerebral palsy, the alignment and stability of the oral structures for feeding/swallowing may be compromised by abnormal muscle tone and movement patterns. Effective oral functioning for feeding begins with attaining better head stability to improve jaw control. Head control is influenced by trunk alignment, which depends upon the stability of the pelvic area. Techniques such as therapeutic seating and oral control can enhance postural alignment and improve oral functioning for the safe intake of food.

Ashutosh Gangil, A.K. Patwari (2012) conducted a prospective study on determine the magnitude and extent of feeding problems in children with cerebral palsy (CP) and to evaluate the effectiveness of Feeding interventions: Children with cerebral palsy of either sex were enrolled randomly and their parents were interviewed for their perception about feeding problems, and for their views about the expected outcome of feeding problems. Each case was assessed for feeding problems based on Gisel and Patrick feeding skill score;. Various rehabilitation procedures were applied and their response was observed in the followup ranging from 3-10 months: One hundred children (76 boys and 24 girls) with cerebral palsy of mean age 2.5 years (range 1 to 9 years) and mean developmental age of 7.6 months (range 1 to 36 months) were included in the study . Spastic quadriplegic cerebral palsy (SQCP) and hypotonic patients had significantly poor feeding skill score ($p < 0.001$). Mean duration of feeding session was 31.5 minutes (range 10-60 minutes). Main food of

children with cerebral palsy consisted of liquid and semisolid diet. Children with poor OMD were unable to take solid food. Cases with seizures had significantly more feeding problems than those without seizures ($p < 0.001$). Parental awareness about feeding problems of their children was significantly low significantly lower than controls ($p < 0.001$). Spastic quadreparesis, hypotonia and poor feeding skill score.: Therefore, they should be thoroughly assessed for feeding problems in order to start timely oral motor rehabilitation which can significantly improve their quality of life

Sheena relly David skuse ximena poblets (2010) conducted a population survey determine the prevalence and nature of feeding difficulties and oral motor dysfunction among a representative sample of 49 children with cerebral palsy (12 to 72 months of age). A population survey was undertaken by means of a combination of interview and home observational measures. Sucking (57%) and swallowing (38%) problems in the first 12 months of life were common, and 80% had been fed nonorally on at least one occasion. More than 90% had clinically significant oral motor dysfunction. One in three (36.2%) was severely impaired and therefore at high risk of chronic aspiration There was a substantial discrepancy between the lengthy duration of mealtimes reported by mothers and those actually observed in the home (mean, 19 minutes 21 seconds; range, 5 minutes 21 seconds to 41 minutes 39 seconds). In 60% of the children, severe feeding problems preceded the diagnosis of cerebral palsy. Using a standardized assessment of oral motor function, we found the majority of children to have clinically significant oral motor dysfunction. Contrary to maternal report, mealtimes were relatively brief, and this, combined with the severity of oral motor dysfunction, made it difficult for some children to achieve a satisfactory feeding interventions.

2.3 Literature related to feeding interventions in cerebral palsy children.

Elizabeth D. Ferluga, M.D. (2016) conducted a prospective study to examined the effects of a nonsurgical interventions for feeding that have been evaluated in individuals with cerebral palsy (CP). providing effectiveness data for feeding interventions in populations of any age with CP. focused on nonsurgical for feeding difficulties. Nonsurgical interventions included positioning, oral appliances, oral stimulation, sensorimotor facilitation, and caregiver training... Fifteen articles (comprising 13 unique studies) met our inclusion criteria. The existing review included 21 studies with conflicting results related to the effects of sensorimotor interventions on short-term improvements in feeding (nine case series) These studies included 309 children.. Baseline weight z-scores ranged from −3.56 to −0.39; followup z-scores ranged from −2.63 to −0.33, relative to typically developing populations. symptoms of 57% and 43%, respectively), , recurrent reflux (30%), and aspiration and pneumonia (29%).. Evidence for behavioral interventions for feeding disorders in CP consists of mostly small, short-term, pre-post studies, with strength of evidence ranging from insufficient to moderate. Some studies suggest that interventions such as oral appliances may enhance oral sensorimotor skills, but there is a clear need for rigorous, comparative studies..

Dahal M Thommessesn M Rasmussen (2015) conducted a randomized control study to characterize the current feeding situation of moderately or severely disabled children with cerebral palsy (CP). Thirty-five children with CP (17 with diplegia, 11 with dystonia, 6 with tetraplegia and one child with ataxia) were investigated at a median age of 8 years. Study conducted at Sweden disabled health centre . Information was obtained from parental interviews, medical records and clinical and anthropometric examinations. Twenty-one of the 35 children (60%), most

of whom were severely disabled, were reported by the parents to have current feeding problems. Feeding disabilitiesc indicators of undernutrition were found in 15 children (43%) and of overnutrition in 3 children (9%), compared with reference values of healthy children.. Early identification of children at nutritional risk requires regular assessments of feeding skills and nutritional status

Laurie snider et.al. (2014) conducted a study on randomized controlled trials to examine the evidence of the effectiveness of different feeding interventions for children with cerebral palsy. : A search of 12 electronic databases identified all relevant studies. For each study, the quality of the methods was assessed according to the study design. A total of 33 articles were retrieved, and 21 studies were included in the final analysis. : Feeding interventions were separated into five main categories: oral sensorimotor facilitation, food consistency, positioning, oral appliances, and adaptive equipment. Five studies were randomized controlled trials. Outcomes were mainly reported on feeding safety and efficiency. One study documented positive results in height and weight change. Nineteen of the 21 studies presented positive outcomes in eating efficiency and/or safety. Feeding interventions demonstrate potential benefits for children with cerebral palsy. However, the current level of evidence is poor, and empirical data are lacking. Methodologically, rigorous studies are required particularly investigating multimodal approaches.

Maria G grammatikopoulou Efstratia daskalou (2013) conducted a case control study to investigated growth and nutrition in children and with cerebral palsy (CP) in comparison with their healthy siblings. Observation of 16 pairs of children with CP and their healthy siblings. Stature, weight, skinfolds, and selected circumferences were measured, and *Z*-scores, percentage of body fat (calipers), and body mass index were calculated. Diet and feeding practices were recorded for 3 .No

differences were observed in the macronutrient distribution of energy intake, with participants with CP covering 75% of their energy requirements. Subjects The participants with CP demonstrated lower body weight, body mass index, percentage of body fat, weight-for-age *Z*-score, and triceps skinfold ($P \leq 0.001$), decreased height-for-age *Z*-score ($P \leq 0.008$), lower body mass index *Z*-score ($P \leq 0.002$), and smaller circumferences. Praise rewards were more often used in children with CP ($P \leq 0.049$) but threats to withdraw food were applied only to the healthy siblings ($P \leq 0.021$). The diets of participants with CP were in the majority energy deficient. The highest energy intakes were demonstrated by the most severely impaired subjects. A tendency was recorded within each household for the adequacy/inadequacy in energy intake, concerning both siblings.

Caroline H Bledsoe (2013) conducted a qualitative study examines the relationships between fosterage and child feeding practices .in Sierra Leone, where infant and child mortality rates are quite high, a large proportion of small children from 1 to 5 yr are fostered living away from their mothers. Ethnographic data from field studies in Sierra Leone are combined with quantitative data from Serabu Hospital, which show that fostered children are underrepresented in hospital admissions and that young fosters present more problems of risk of aspiration..(Fostered girls appear to be at more risk in both these categories than boys.) Finally, examine the implications of the findings for applied issues, arguing that fostered children may slip through the cracks of maternal-child health care programs.

Ana Paula Cajaseiras de CarvalhoBrasília Maria Chiari (2013) conducted Cross-sectional comparative study to verify the impact of an educational program in the knowledge and conduct of caregivers, 30 children diagnosed with cp

children- and their caregivers with the use of a questionnaire and video recordings of a meal conducted by the main caregiver. patients were divided into two groups: study - consisting of caregivers submitted to a questionnaire and a video recording before and after the educational program; control - group in which caregivers underwent the procedures in two occasions, but without access to the educational program. Showed the results around 93.33% of caregivers were females, most had low educational level, and only 10% had a professional activity. Previous knowledge of caregivers concerning feeding was restricted, with 66% of caregivers not knowing what aspiration was, 60% being unfamiliar with the complications associated with such occurrence, and 86.66% stating that there is no relation between voice and swallowing. During feeding, only 26.66% of the caregivers used verbal commands related to feeding, and 50% did not realize the difficulties presented by their children. Finally study concluded difference with regard to knowledge and conduct in the study group only.concluded that the educational program had a positive impact on the knowledge and conduct of caregivers concerning the feeding of their children with cerebral palsy children.

Rrichard c henderson Ellen B Fung virgina A stallings (2012) conducted a randomized control study was assessed the feeding difficulties. The Child Health questionnaire was used to assessed feeding practices. A categorical scale (none to severe) was used to classify subjects according to severity of feeding dysfunction. 230 children (9.7±4.6 years; 59% boys) with moderate to severe cerebral palsy were recruited from 6 centers in the United States and Canada. descriptive statistics, the Kruskal-Wallis and Pearson χ^2 tests.Severity of feeding dysfunction was strongly associated with indicators of risk for aspiration The mean weight *z* scores were −1.7, −2.5, −3.3, and −1.8 among children with none, mild, moderate, or severe (largely

tube-fed) feeding dysfunction, respectively (*P*=.003). Similar results were observed for height *z* score (*P*=.008), triceps *z* score (*P*=.03), and poor Global Health score (part of the Child Health Questionnaire) (*P*<.001). Subjects who were tube fed were taller (*P*=.014) and had greater body fat stores (triceps *z* score, *P*=.001) than orally fed subjects with similar motor impairment. For subjects exclusively fed by mouth, a dose-response relationship was observed between feeding dysfunction severity and poor feeding skills.Subjects with only mild feeding dysfunction had reduced feeding skills *z* score (−.9) compared with those with no feeding problems (−0.3).For children with moderate to severe cerebral palsy, feeding dysfunction is a common problem associated with risk for aspiration... Parental report of feeding dysfunction with a structured questionnaire may be useful in screening children for feeding abilities.

2.4 Conceptual frame work

A framework is a brief explanation of theory or those portions of a theory which are to be tested in a quantitative study. A conceptual frame work is one that presents logically constructed concepts to provide general explanation of relationship between the concepts of the research study , they are usually constructed by using researcher's own experiences previous research findings or concepts of several theories or models. Conceptual framework facilitates communication and provides for a systemic approach to nursing research, education, administration and practice.

The conceptual frame work selected for this research study was based on Kings goal attainment theory conceptual framework provides the investigator the guidelines to proceed in attending the objectives of the study based on the theory. It is a scientific representation of the steps, activities and outcome of the study.

The present study is aimed to assess the effect of assisted feeding practices on prevention of aspiration in cerebral palsy children. The theoretical framework for the present study is based on Imogene King's Goal attainment theory. According to Imogene King, nursing is defined as process of interaction, communication, perception, transaction, action and feed back. Hence the nurse and caregivers share information about their perception in relation to nursing care.

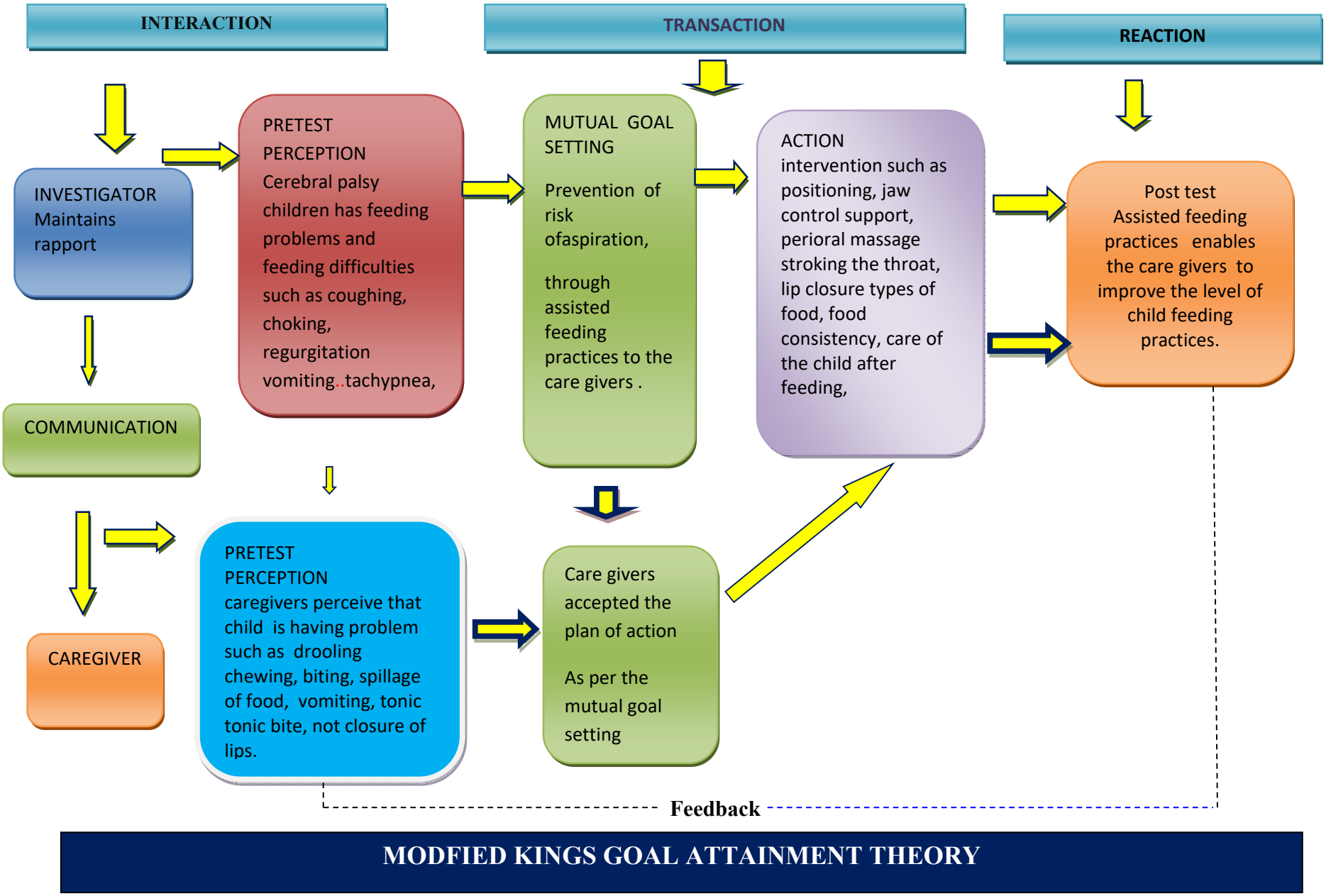
Interaction involves the process of communication and perception between two person or environment represented by verbal and nonverbal behaviors. In the present study communication represents the information component of interaction which is shared directly or indirectly from person to person. The investigator and cerebral palsy children along with caregivers will be exchang their view and ideas through communication.

Perception is each person's representation of reality through which an individual experience direct contact with other person or things in the environment. In present study the children has feeding difficulties they needs help to improve the feeding interventions. The nurse perceived cerebral palsy children experience feeding difficulties due to oral motor dysfunction and nursing action necessary to prevent the risk of aspiration during feeding.

Transaction refers to the purposeful interactions leading to goal attainment. Nurse and caregivers will understand mutual goals and set plans to attain these goals. In the present study the investigator and cerebral palsy children along with caregivers will be interacted with each other and implemented feeding practices to the children for prevention of risk of aspiration.

Reaction refers to the sequence of behaviors as a result of action. The act of both investigator and the caregivers will lead to reaction. It can be either good or bad. In the present study it may be good.

Feed back The out come may be either positive or negative. In the present study the positive outcome will be prevention of risk of aspiration in cerebral palsy children.


INTERACTION
TRANSACTION
REACTION
INVESTIGATOR Maintains rapport
COMMUNICATION
CAREGIVER
PRETEST PERCEPTION Cerebral palsy children has feeding problems and feeding difficulties such as coughing, choking, regurgitation vomiting..tachypnea,
MUTUAL GOAL SETTING
Prevention of risk ofaspiration,
through assisted feeding practices to the care givers .
ACTION intervention such as positioning, jaw control support, perioral massage stroking the throat, lip closure types of food, food consistency, care of the child after feeding,
Post test Assisted feeding practices enables the care givers to improve the level of child feeding practices.
PRETEST PERCEPTION caregivers perceive that child is having problem such as drooling chewing, biting, spillage of food, vomiting, tonic tonic bite, not closure of lips.
Care givers accepted the plan of action
As per the mutual goal setting
Feedback
MODFIED KINGS GOAL ATTAINMENT THEORY

CHAPTER-III

RESEARCH METHODOLOGY

The methodology of research indicates the general pattern of organizing the procedure or assembling valid and reliable data for investigation. This chapter provides a brief explanation of the method adopted by the investigator in this study. It includes the research approach, research designs, and variables, setting of study, population sample, sample size, sampling technique, description of the tool, pilot study , data collection procedure and plan for data analysis.

The present study aimed to evaluate the effectiveness of assisted feeding practices on prevention of aspiration among care givers of cerebral palsy children., pediatric ward, GRH, Madurai.

3.1 Research approach

The approach is the most essential part of any research. The entire study is based on it. The study to evaluate the feeding practices on prevention of risk of aspiration among care givers of cerebral palsy children was evaluated. Therefore quantitative approach is used to evaluate the feeding practices.

Quantitative Approach

3.2. Research design

The investigator used **pre experimental one group pre test post test design** for the study. There is a concept measured by a with out control and randomization.

O_1 ——————— X ——————— O_2

O_1 ⟶ pre test to assess the level feeding practices among caregivers on prevention of aspiration in cerebral palsy children.

X ⟶ Intervention – Assisted feeding practices.

O_2 ⟶ Post test to assess the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children.

3.3 Research Variables

Independent variables

In this study Independent variable refers to Assisted feeding practices

Dependent variables

In this study dependent variable refers to Prevention of Aspiration

3.4. Setting of the study

The setting was based on acquaintance of the investigator with the institution, feasibility of conducting the study, availability of the sample, permission and proximity of the setting to investigation.

The study was conducted at pediatric ward GRH Madurai. It is the oldest and illustrious institution catering to the populations of the adjoining southern districts. This is one of main institution serving to people. 3106 bedded Hospital. 800 to 1500 children admitted Hospital in every month.

3.5 Population

Target population:

The target population of this study is Caregivers of cerebral palsy children.

Accessible population

The accessible population of this study is Caregivers of Cerebral palsy Children in pediatric ward. GRH, Madurai.

3.6 Sample

Caregivers of cerebral palsy children who fulfilled inclusion criteria ,

3.7. Sample Size

Sample size is 40.

3.8 Sampling Technique

Sampling technique used in the study is **consecutive sampling technique** , non-probability sampling method. 40 caregivers of cérébral palsy children are in the study who full filled the sampling criteria based on **non-probability sampling** technique

3.9 Criteria for sample selection

Inclusion criteria

- Care givers of Cerebral palsy children in pediatric ward.
- .care givers who are having.1year to 6 years of children.
- Caregivers of Cerebral palsy children. who are available at the time of data collection.
- Caregivers who are having Spastic type, mixed type, Ataxic type of cerebral palsy children .
- caregivers who are not attending special school.

Exclusion criteria

- care givers who are not willing to participate in the study.
- care givers who are having Atheoid type of cererbral palsy children.

3.10 Selection and description of tool

The tool consists of following sections:

Section A. Deals with socio demographic data of the samples

Section B: **consist of observation checklist**.

Section A

Socio Demographic variable such as Age of the mother, age of the child, sex, birth order, Any other Family members affected by cerebral palsy number of children in their family, education of mother, occupation of father, family income, type of family, place of residence, Nature of delivery, Type of cerebral palsy.

Section B: consist of observation checklist.

3.11 Scoring procedure

Observation checklist contains 12 questions. Each contains 1 mark. Total 12 marks.

Scoring Interpretation

Section –A : There is no score for socio demographic variables**.**

Section B : observation checklist**.**

0-4 poor feeding practices

5-8 Fair feeding practices

9-12 Good feeding practices.

Testing of the tool

3.12 Validity of the tool

Validity refers to the degree to which an instrument measures what is intended to measure. The content validity was obtained from three child Health Nursing

experts and two professors of pediatric medicine Department and pediatric surgical Department at Madurai.. They were requested to judge the items for clarity, relatedness, meaningfulness and adequacy of the contents. Tool was translated in to Tamil and retranslated to English to confirm language validity.

3.13 Reliability of the tool

The reliability of a measuring is a major criterion for assessing its quality and adequacy. Reliability is the degree of consistency with which it measures the target attribute. The reliability of the tool was done by test re test method was used to assess the internal consistency reliability score of $r = 0.785$ Hence the tool was consider as reliable and it was used in this study.

3.14 Ethical and legal considerations

This study was conducted after the approval from the ethics committee Madurai Medical College, Madurai-20. All respondents were carefully informed about the purpose of the study and their part during the study and how the privacy was guarded. Ensured confidentiality of the study result. Written permission was obtained from all participants.

3.15 Pilot study

The pilot study was conducted at pediatric ward, Government Rajaji Hospital, Madurai for the period of one week, Formal permission was obtained from Director of the pediatric department. The pilot study was conducted on 06.03.2017 to 12, 03 2017 who fulfilled the inclusion criteria were chosen by using nonprobability consecutive sampling technique sample and data was collected. Informed written and oral consent was obtained from the caregivers of cerebral palsy children. Pretest was

conducted using observation checklist and then the demonstrated the assisted feeding practices for 30 minutes to 40 minutes while feeding with adequate explanation and clarification of doubts regarding feeding technique was given to the caregivers for 5 consecutive days,. On 6th. day while feeding to the child by caregivers using same observation checklist post test was conducted on the level of feeding practices in cerebral palsy children. The finding evidence that there was significant statistical evidence in pre test post test scores on the level of feeding practice This study finding revealed that setting was feasible and tool was applicable to conduct the main study.

3.16 Procedure for data collection

After obtaining the formal permission from the Institutional review Board/Ethics committee of Madurai Medical college, Principal College of Nursing, Director of Institute of child Health Research centre Madurai The study was conducted at pediatric ward ,Govt Rajaji Hospital at Madurai to conduct the study. The investigator introduced to the caregivers and explained the purpose of the study and ascertained the willingness of the participants. The respondent will be assured anonymity and confidentiality. Period of study was for 4-6 weeks. Total sample size 40 were selected by consecutive sampling method. After maintaining initial rapport the purpose of study was explained and informed oral and written consent was obtained. Socio demographic data was collected, pretest was conducted using observation checklist and the level of feeding practices was assessed for caregivers of cerebral palsy children.

Then the demonstration of assisted feeding practices for 30 minutes to 40 minutes while feeding with adequate explanation and clarification of doubts regarding feeding technique was given to the caregivers for 5 consecutive days, On 6th. day

while feeding to the child by caregivers using same observation checklist post test was conducted on the level of feeding practices in cerebral palsy children. .

3.17 Plan for data analysis

The data were planned to be analysed in terms of the objectives of the study using descriptive and inferential statistics.

Descriptive statistics:

- Frequency, Percentage distribution, used to analyze the socio demographic variables.
- Mean and standard deviation used to analyze the level of feeding practices among care givers of cerebral palsy children

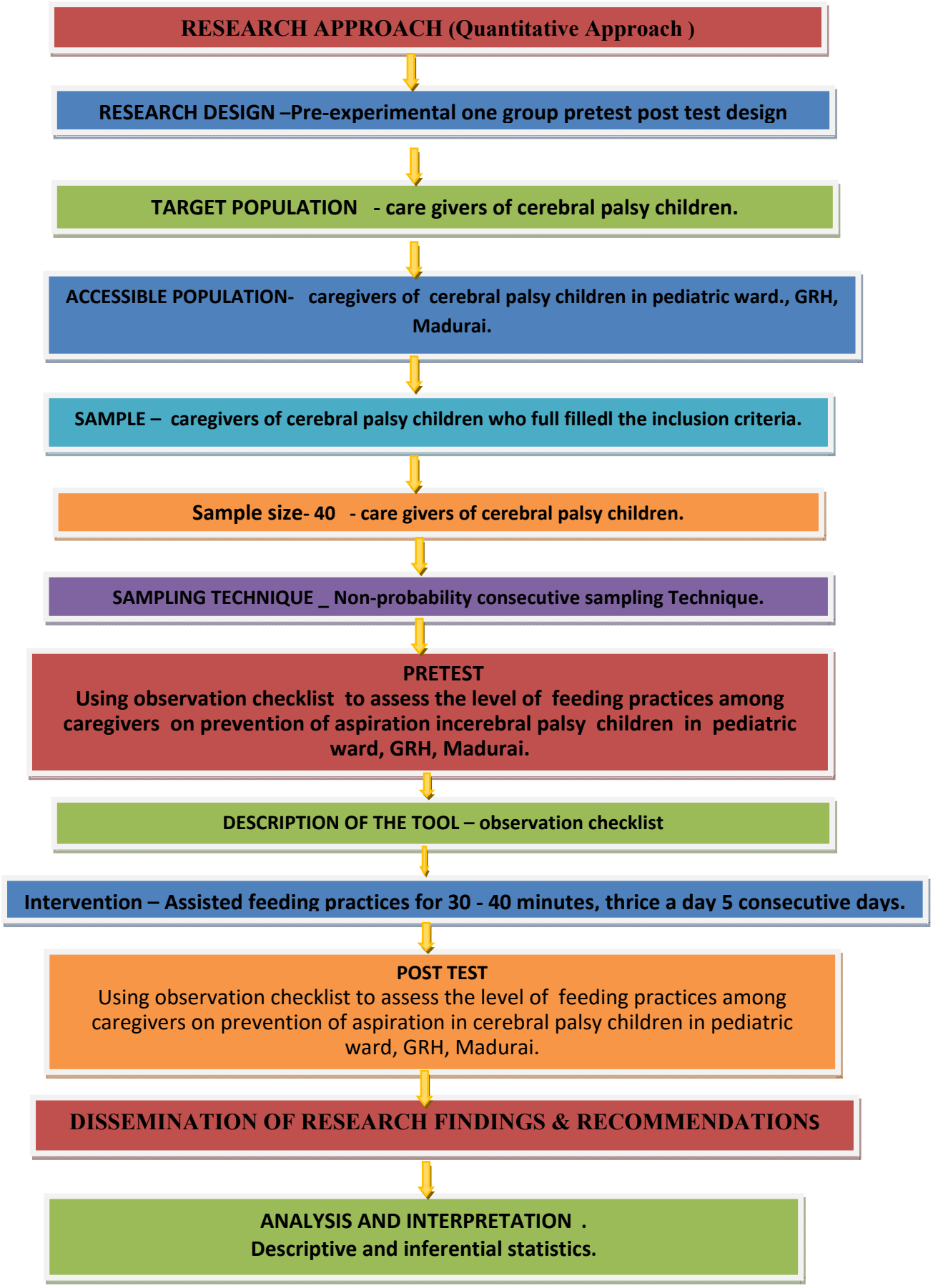
Inferential statistics

1. Paired t test was used to analyze the association between the pre and post test level of feeding practices among care givers.
2. Chi-square test was used to analyze association between pre test and post test level of feeding practices with their selected socio-demographic variables.

3.18 Protection of human rights

Research proposal was approved by the dissertation committee, prior to the pilot study and the main study permission was obtained from the principal college of Nursing, HOD college of Nursing, Director institute of child Health and Research centre, Madurai. An Informed oral and written consent of each study samples was obtained before starting the data collection. Positive benefits were explained to all the study subjects. They were explained that they may with draw from the study at any time without penalty. Assurance was given to all the subjects that confidentiality would be maintained throughout the study. Debriefing of the study results will be done after approval of the dissertations.

3.19 Schematic Representation of Research Methodology



Data Analysis And Interpretation

CHAPTER –IV

DATA ANALYSIS AND INTERPRETATION

This chapter deals with the analysis of the data collected. Statistical procedure enabled the investigator to deduce, summarize, organize, evaluate , interpret and communicate the numeric information. Statistical analysis is a method of rendering quantitative information meaningful and intelligible. In this chapter the data collected ere edited, tabulated, analysed and interpreted.

The data collected were organized under the following sections

Section I

Distribution of socio demographic characteristics among caregivers of cerebral palsy children in pediatric ward, GRH, Madurai.

Section II

Description the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children among caregivers pediatric ward GRH Madurai.

Section III

Effectiveness of assisted feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH, Madurai.

Section IV

Association between the level feeding practices among caregivers on prevention of aspiration in cerebral palsy children with their selected socio demographic variables .

Section - I

Distribution of caregivers of cerebral palsy children with their socio demographic variables

Table . 1

Frequency and percentage distribution of samples according to their socio demographic variables.

Sl.No	Demographic data	n=40	%
	Age of the mother (in years)		
1.	20-30 years	30	75
	31-40 years	10	25
	41-50 year	0	0
	More than 50 years	0	0
	Age of the child		
2.	1-2 years	18	45
	2-4 years	13	32.5
	5-6 years	9	22.5
	Sex of the child		
3.	Male	23	57.5
	Female	17	42.5
	Birth order of the child		
4.	I	28	70
	II	9	22.5
	III	2	5.0
	IV	1	2.5
	V	0	0
	Family members affected by cerebral palsy		
5.	Siblings	2	5
	Parents	1	2.5
	Relatives	6	15
	None	31	77.5
	Number of children in family		
6.	1	21	52.5
	2	13	32.5
	3	6	15
	4	0	0
	5	0	0

7.	**Type of family**		
	Nuclear	15	37.5
	Joint	25	62.5
8.	**Education of mother**		
	No formal education	3	7.5
	Primary education	7	17.5
	Secondary education	18	45
	Higher secondary education	2	5
	Graduate	10	25
9.	**Occupation of father**		
	Labour	17	42.5
	Private	16	40
	Own business	5	12.5
	Government	2	5
10.	**Family income**		
	2000-4000/month	10	25
	5000-7000/months	18	45
	8000-10000/months	12	30
11.	**Place of residence**		
	Urban	15	37.5
	Rural	18	45
	Semi Urban	7	17.5
12.	**Nature of delivery**		
	Normal	23	57.5
	Caesarian	11	27.5
	Forceps	6	15
13.	**Type of cerebral palsy**		
	Spastic	*23*	57.5
	Ataxic	*17*	42.5
	Atheoid	*0*	0
	Mixed	*0*	0

Above table reveals that demographic information of caregivers of cerebral palsy children those who participated in the following study on A study to assess the effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among caregivers, pediatric ward, GRH, Madurai.

Considering the age wise distribution of mother (75%) 30 mothers were in 20-30 yrs of age, 10 (25%) 10 mothers were in 31-40 yrs of age. 0(0%) were in 41-50 yrs of age. 0 (0%) were in more than 50 yrs of age.

Regarding Age of the child 18(45%) were in 1-2 yrs of age, 13 (32.5%) were in 2-4 yrs of age, 9(22.5) were in 5-6 yrs of age.

Regarding sex of the child 23 (57.5%) were in male child, 17 (42.5%) were in Female child.

Regarding birth order of the child 28 (70%) were in I order of the child, 9 (22.5%) were in II order of the child, 2 (5.0%) III order of the child, ! (2.5%) IV th order of the child, 0 (0%) V th order of the child.

Regarding to the family members affected by cerebral palsy 2 (5%) were in siblings, 1 (2.5%) were in parents, 6 (15%) were in relatives, 31 (77.5%) were in none.

Related to Number of children 21 (52%) belongs to 1 children in the family. 13 (32.5%) were in 2 two children in the family. 6 (15%) 3 children in the family. remaining 0(0%) were in 4 children, 0 (0 %) were in 5 children in the family.

Regarding the type of family 15 (37.5%) were in Nuclear family, 25 (62.5%) were in joint family,

Based on education of the mother 3 (7.5%) were in No formal education, 7 (17.5.%) were in primary education, 18 (45%) were in secondary education, 2 (5%) were in Higher secondary education, 10 (25%) were in graduates

Regarding occupation of father 17 (42.5) were in Labour, 16(40%) were in private, 5 (12.5%) were in own business, 2 (5 %) were in Government.

Regarding the family income 10 (25%) 2000-4000 /month,,18 (45 %) were in 5000-7000/month, 12 (30%) were in 8000-10000/month.

Regarding the place of residence 15 (37.5%) were in urban area, 18 (45%) were in rural, 7 (17.5%) were in semi urban.

Regarding the nature of delivery 23 (57.5%) were in Normal delivery, 11 (27.5%) were in caesarian 6 (15%) were in forceps delivery.

Regarding the type of cerebral palsy 23(57.5%) were in spastic type,, 17 (42.5%) were in ataxic type, 0(0 %) were in atheoid type, 0 (0%) were belongs to mixed type.

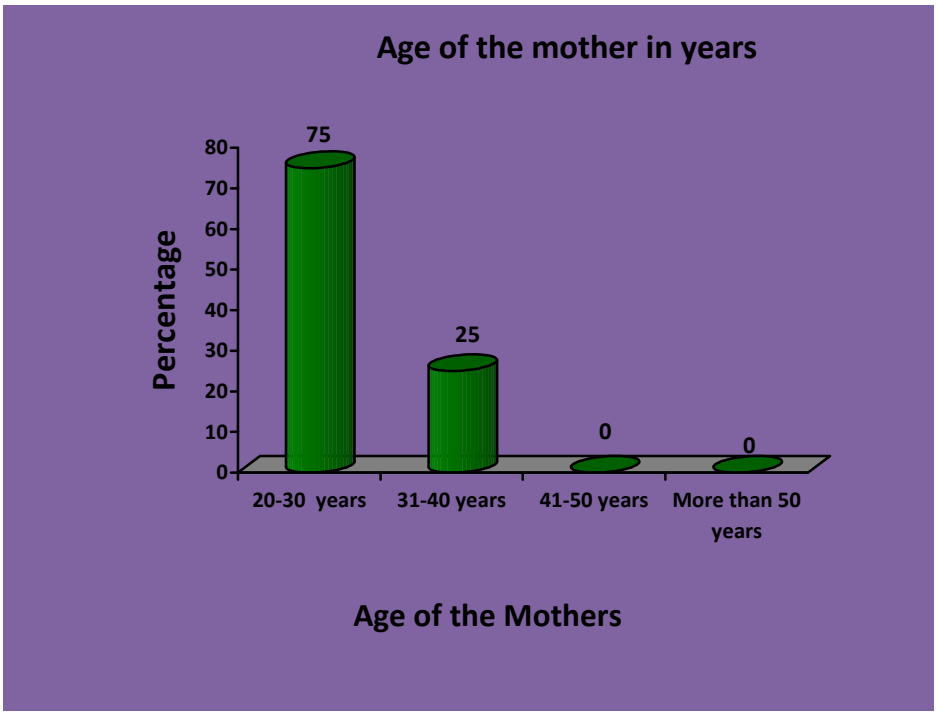


Fig . 2 Percentage Distribution for Age of mother

The above Cylinder diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregiversin pediatric ward according to their age of the mother 30 (75%) were belongs to 20-30 yrs of age, were in 25% in 31-40yrs and remaining 0(%) were in 41-50 yrs of age,0(%) were in 41-50 yrs of age.

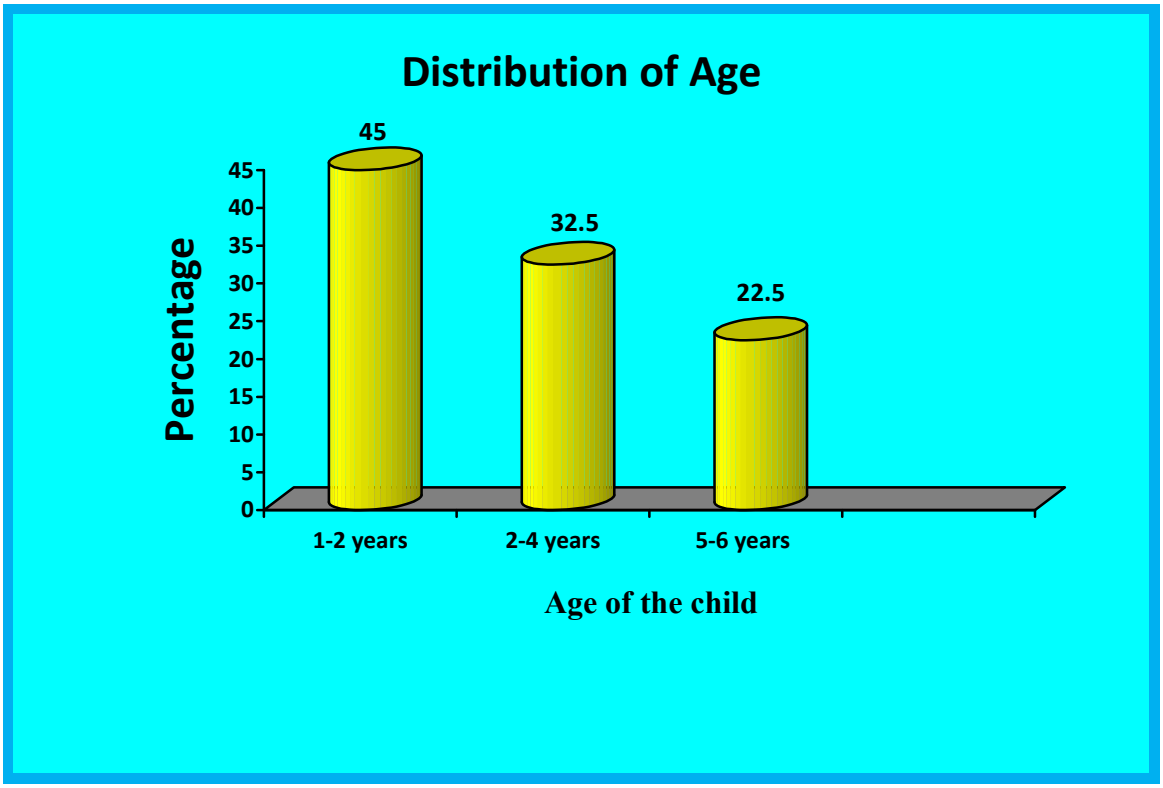


Fig. 3 Percentage distribution of Age of the child.

The above Cylinder diagram showing percentage wise distribution of aspiration in cerebral palsy children among care givers in pediatric ward according to their age of the child 18(45%) were belongs to 1-2 yrs of age,13(32.5) were in 2-4 yrs of age, remaining 9%(22.5) were in 5-6 yrs of age.

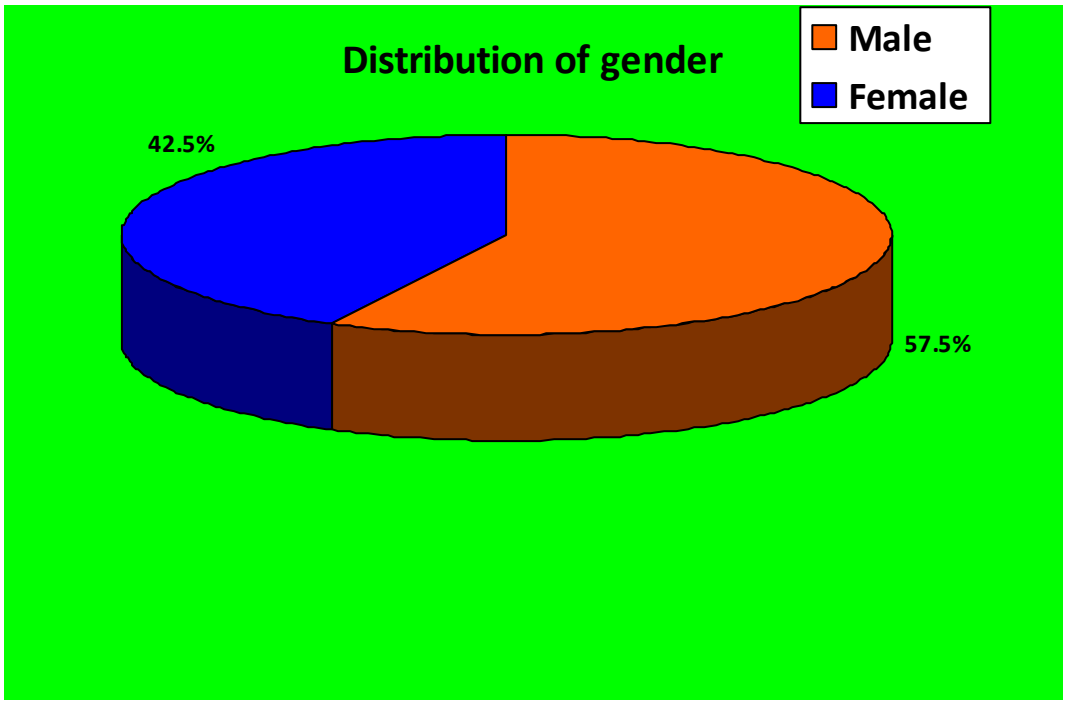


Fig. 4 Percentage distribution of Gender of the child.

The above Pie diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregivers in pediatric ward according to their sex of the child 23(57.5) are belongs to 23 (57.5) were in male, 17(42.5) were in female.

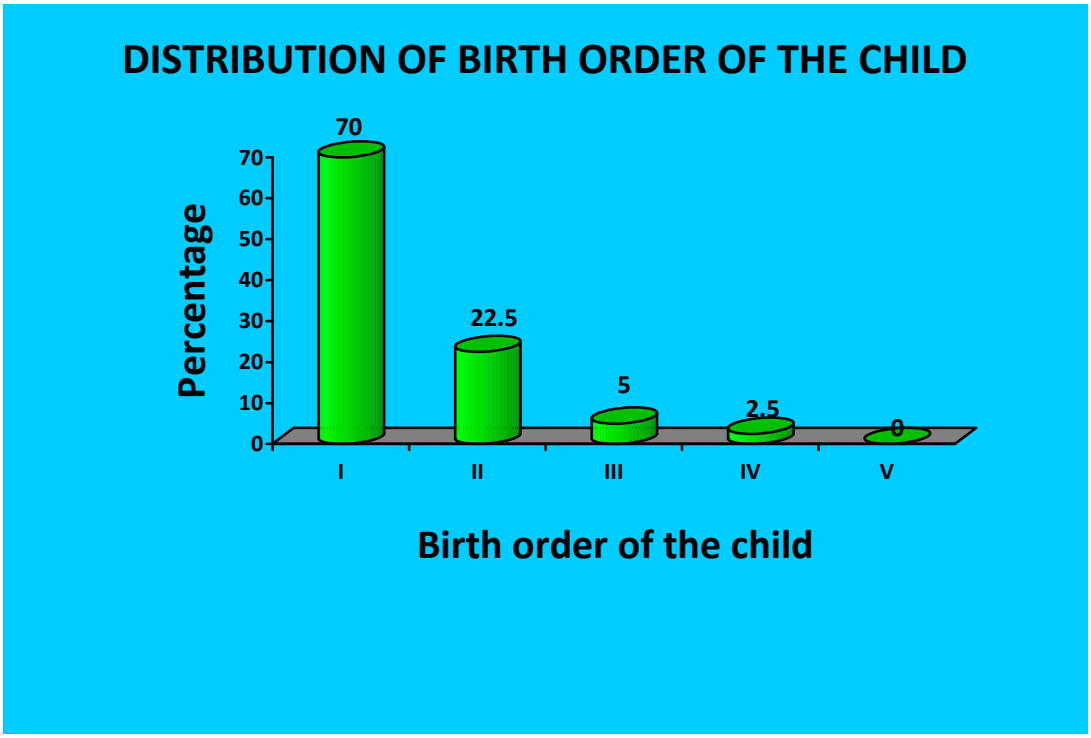


Fig. 5 Percentage Distribution of Birth order of the child

The above..Cylinder diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregivers in pediatric ward according to their birth order of the child 28%(70%) are belong to I order of the child, 9(22.5%) were in II order of the child, 2(%) were in order of the child

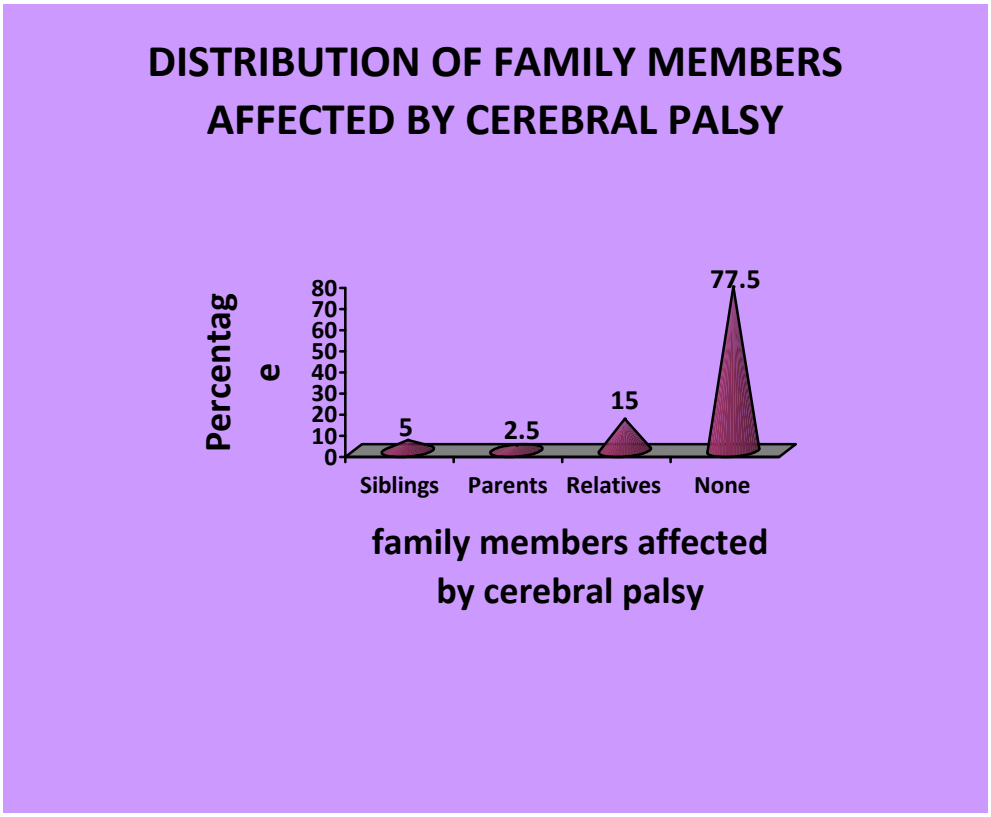


Fig. 6 Percentage Distribution of Family members affected by cerebral palsy.

The above Cone diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregivers in pediatric ward according to their family members affected by cerebral palsy

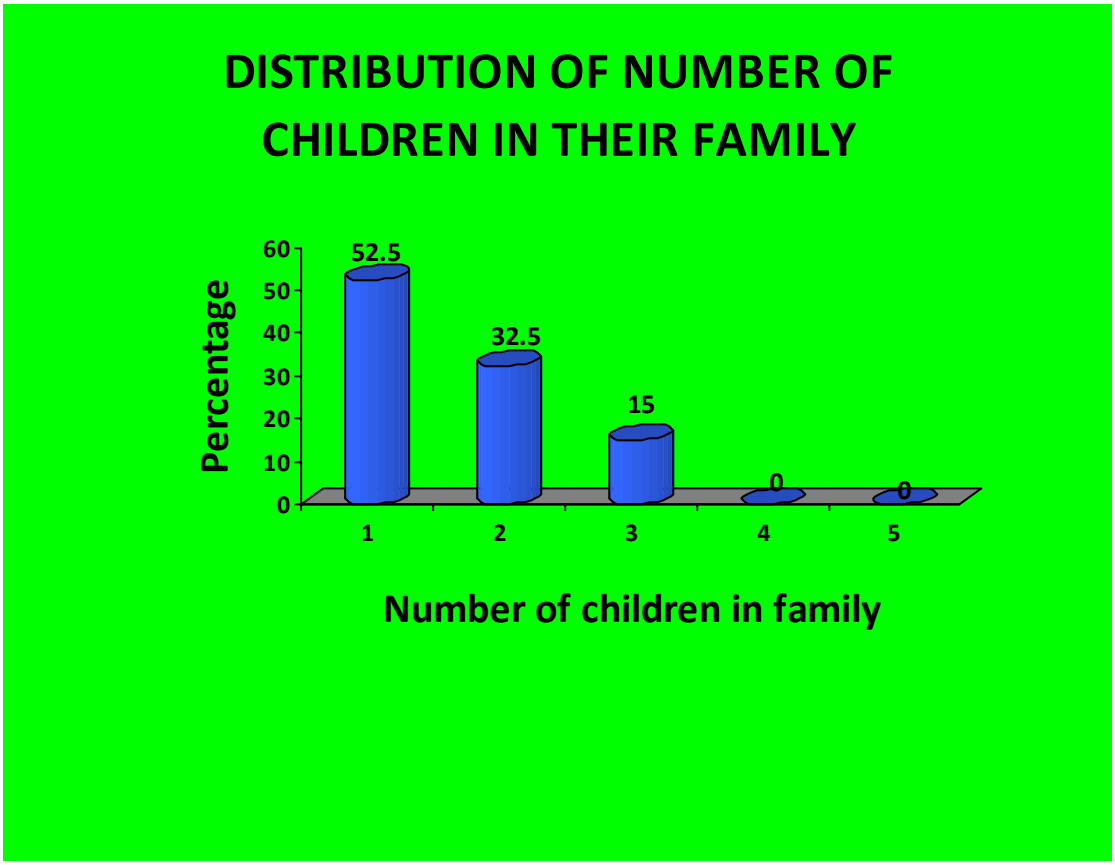


Fig.7 Percentage distribution of number of children in their family.

The above Cylinder diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregiversin pediatric ward according to their number of children in family 21(52.5%) were belongs to 1 children in family, 21(32.5%) were in 2 children in fmily,13(32.5) 6(15%) were in 2 children in family, remaining were in o (o%) 4 children in family were in o(o%) 5 children in family.

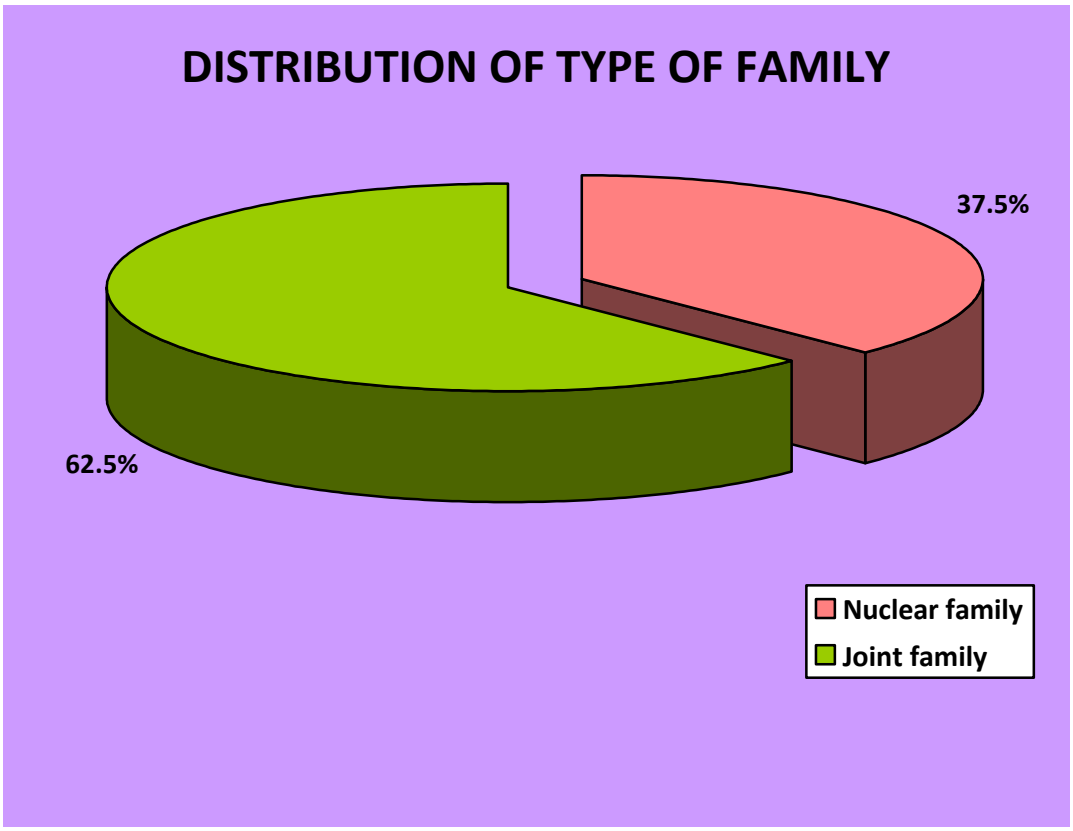


Fig.8 . Percentage Distribution of type of family

The above Cylinder diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregivers in pediatric ward according to their number of children in family15(37.5) were belongs to Nuclear family,25(62.5) were in Joint family.

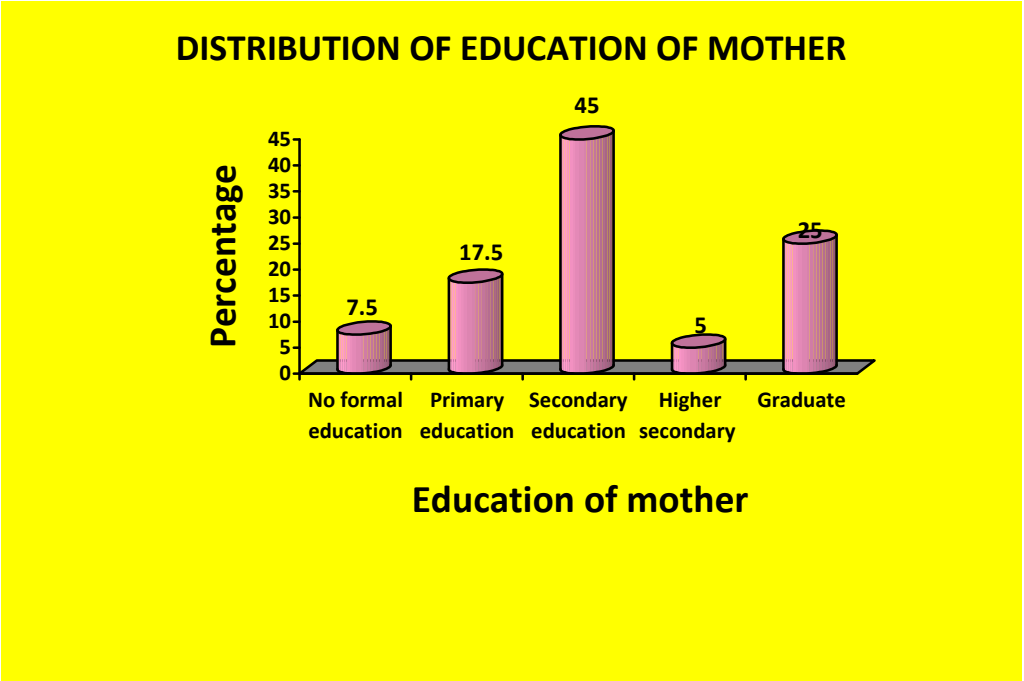


Fig.9. Percentage Distribution of education of mother.

The above Cylinder diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregivers in pediatric ward according to their education of mother 3(7.5 %) were belongs to No formal education. 7(17.5) were in primary education, 7(17.5%) were in primary education, 18(45%)were in secondary education, ere in 2(5%) Higher secondary education, remaining 10(25%) were in Graduates in their family.

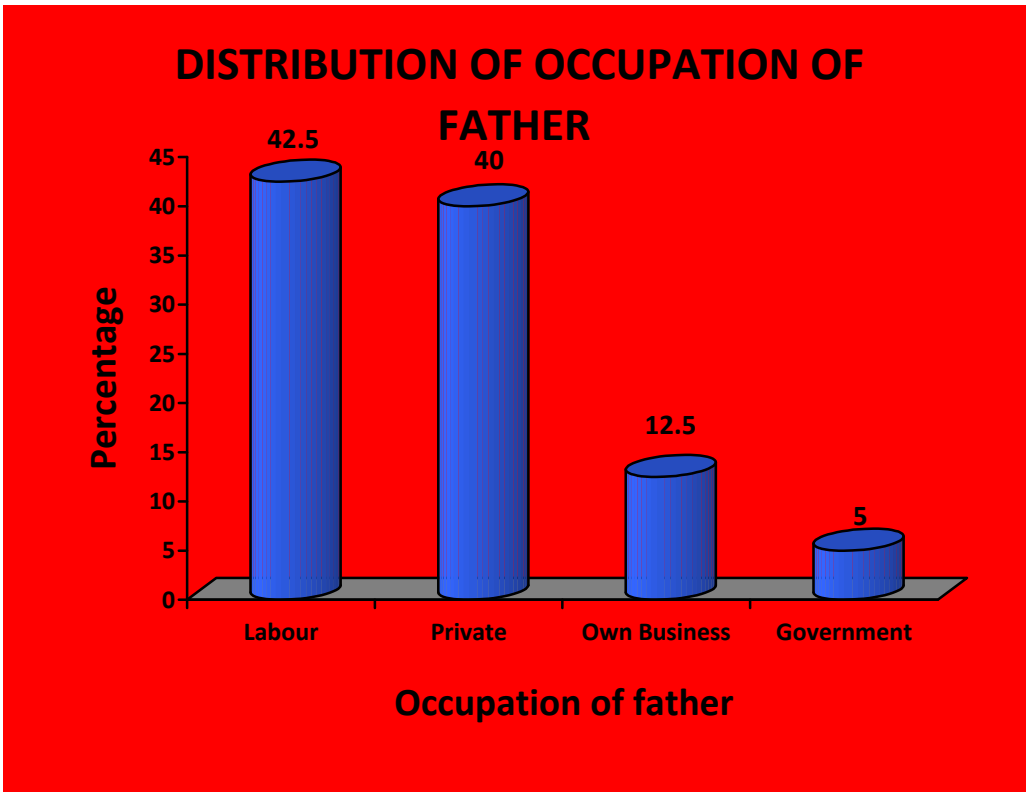


Fig.10 Percentage distribution of occupation of father.

The above Cylinder diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregivers in pediatric ward according to their occupation of father 17 (42.5%) were belongs to Labour 16(40%) were in private, 5(12.5) were in own business, remaining 2 (5%) were in Government in their family.

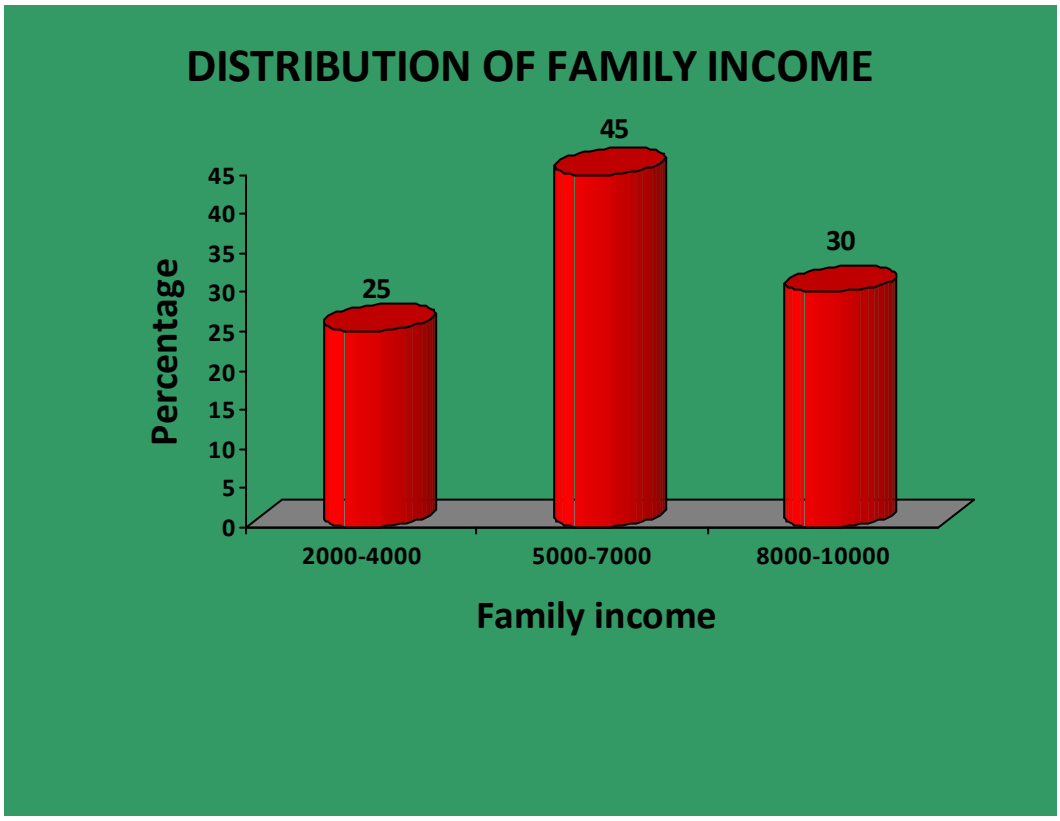


Fig. 11 Percentage distribution of family income

The above Cylinder diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregivers in pediatric ward according to their family income 10(25%) were belongs to 2000-4000/month, 18(45%) were in 5000-7000/month, remaining were in 8000-10000 /month in their family.

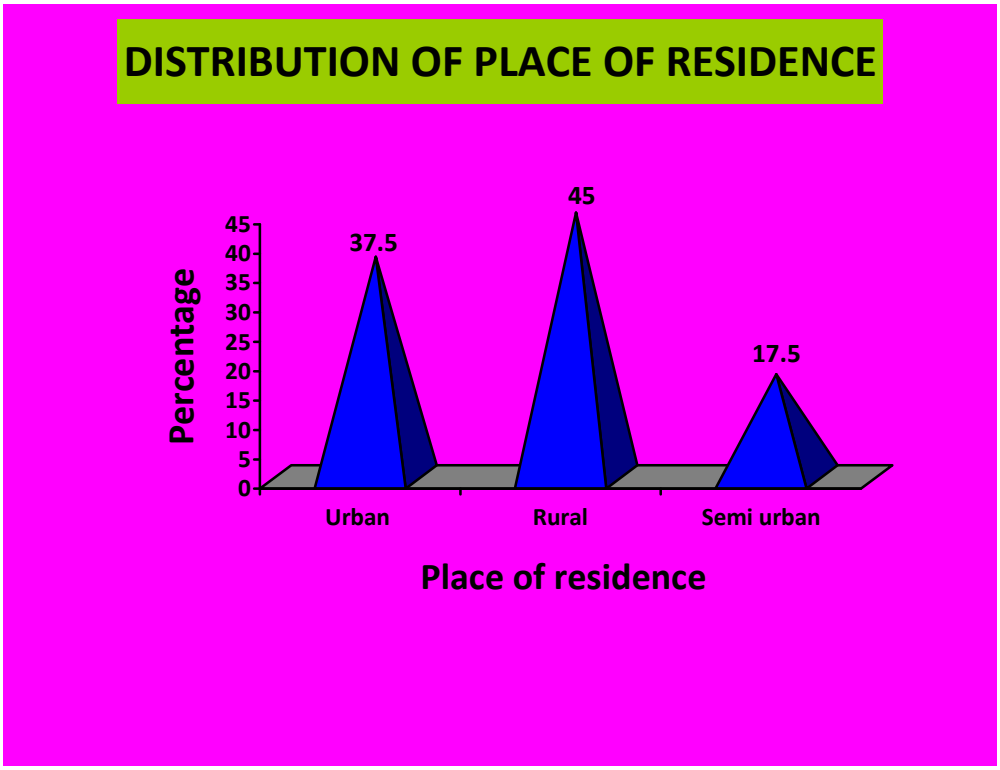


Fig. 12 Percentage Distribution of place of residence.

The above Phyramid diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregivers in pediatric ward according to their place of residence15(37.5% were belongs to urban area, 18(45%) were in rural remaining in 7(17.5%) were in semi urban

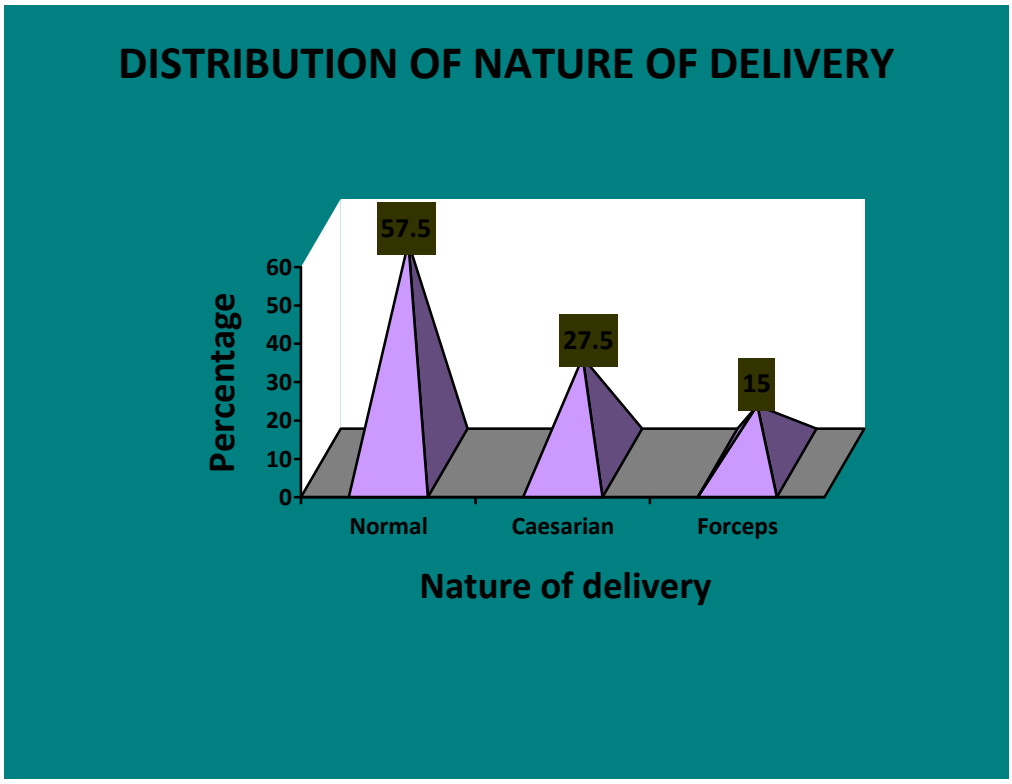


Fig.13 Percentage Distribution of Nature of delivery.

Phyramid diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregivers in pediatric ward according to their nature of delivery 23(57.5%) were belongs to Normal delivery.11(27.5%) were in caesarian, remaining 6((15%) were in forceps delivery

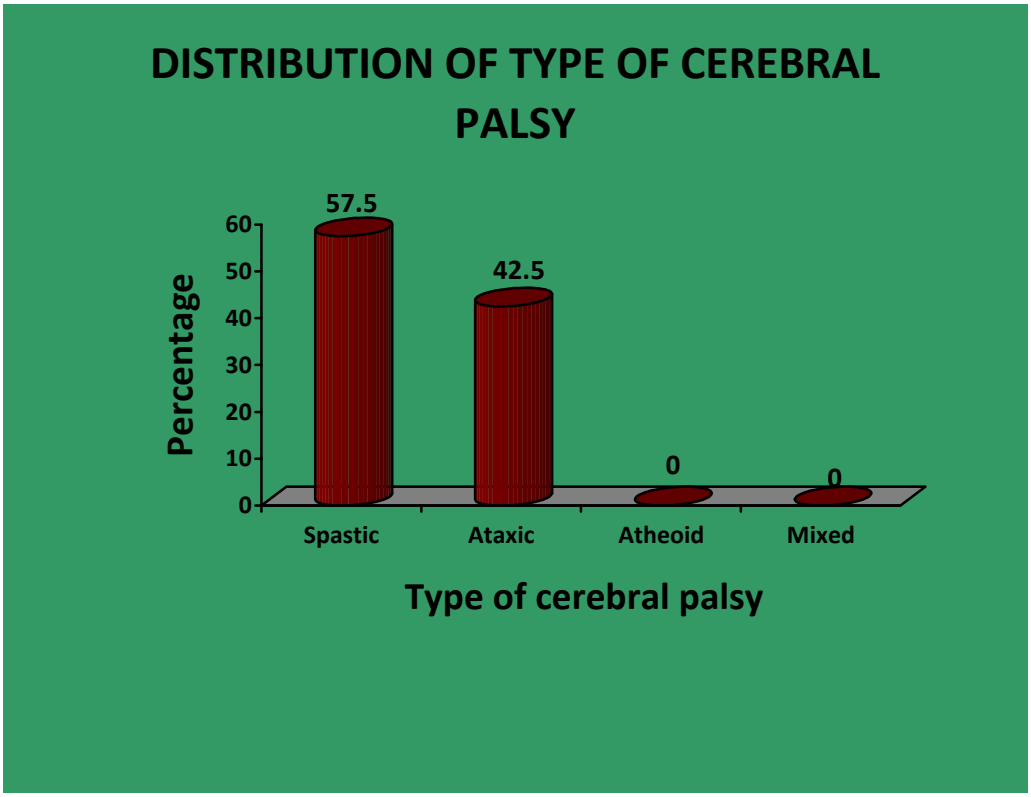


Fig. 14 Percentage Distribution of type of cerebral palsy.

Cylinder diagram showing percentage wise distribution of aspiration in cerebral palsy children among caregivers in pediatric ward according to their type of cerebral palsy 23(57.5%) were belongs to spastic type ,17(42.5%) were in ataxic type, remaining 0(0%) were in mixed type of cerebralpalsy.

Section II

Distribution to the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH, Madurai.

Table -2

Mean , SD and mean% scores of assisted feeding practices between pre and post test level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, Government Rajaji Hospital, Madurai

n=40

	Max score	Pre test			Post test			Effectiveness in mean %
		Mean	SD	Mean %	Mean	SD	Mean %	
Level of feeding practices	12	4.175	0.87	35	9.725	0.99	81	46

The above table 2 depicts the comparison of mean, standard deviation and mean% between pretest and post test. The pretest mean score was 4.175 with the standard deviation 0.87 and mean % was 35. Whereas post test mean score was 9.725 with the standard deviation 0.99 and mean % was 81. The effectiveness in mean % was 46.

Table -3

Frequency and percentage wise distribution of assisted feeding practices in post test level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, Government Rajaji Hospital, Madurai

n=40

Level of feeding practice	Pre test		Post test	
	F	%	F	%
Poor	27	67.5	-	-
Fair	13	32.5	4	10
Good	-	-	36	90
Total	40	100	40	100

In pretest 27 (67.5%) were had poor feeding practices. 13(32.5%) were had fair feeding practices. Hence no one was scored in good feeding practices. In post test 4(10%) were had fair feeding practices, 36 (90%) were had good feeding practices.

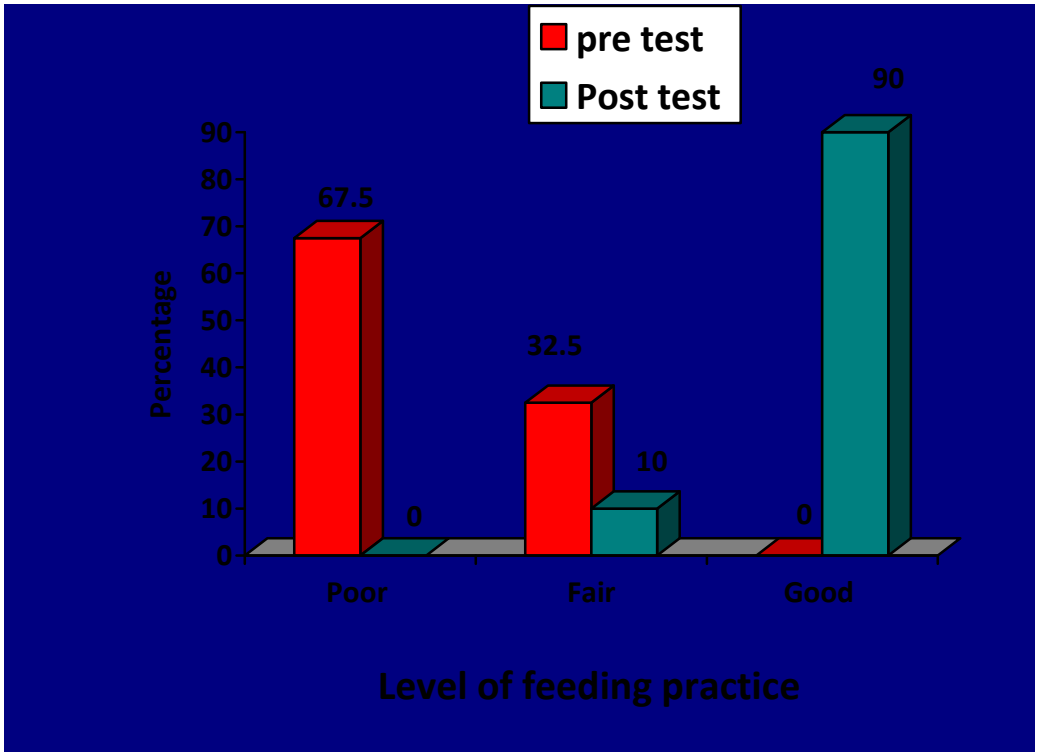


Fig.15 Percentage Distribution of pre and post test level of feeding practices.

The above Bar diagram showing percentage wise distribution of pre and post test level of feeding practice. In pretest 27(67.5%) were had poor feeding practices, 13(32.5%) were had fair feeding practices, Hence No one was scored in good feeding practices. In post test 4(10%) were had fair feeding practices, 36 (90%) were had good feeding practices.

Section III

Effectiveness of Assisted feeding practices among caregivers on prevention of aspiration in cerebral palsy Children in pediatric ward, GRH, Madurai.

Table -4

Paired "t"-test was found the effectiveness of assisted feeding practices on among caregivers on prevention of aspiration in cerebral palsy children cerebral palsy in pediatric ward at GRH, Madurai

n=40

Overall	Pre test		Post test		Mean difference	't'-value	P-value
	Mean	SD	Mean	SD			
Level of feeding practice	4.175	0.87	9.725	0.99	5.55	27.42	**P<0.001*** **

***-P<0.05, significant and **-P<0.01 & ***-P<0.001, Highly significant**

The above table shows that the level of feeding practices regarding pretest and post test mean score 4.175 and 9.725 respectively. Standard deviation score is 0.87 and 0.99 respectively. Mean difference between the pretest and post test 5.55. paired t test value 27.42 is much higher than the table value at $p<0.001$ level of significance. So the researcher observed that there is a highly significant Increased level of feeding practices among care givers of cerebral palsy children in pediatric ward, GRH, Madurai and also assisted feeding practices is very much effective.

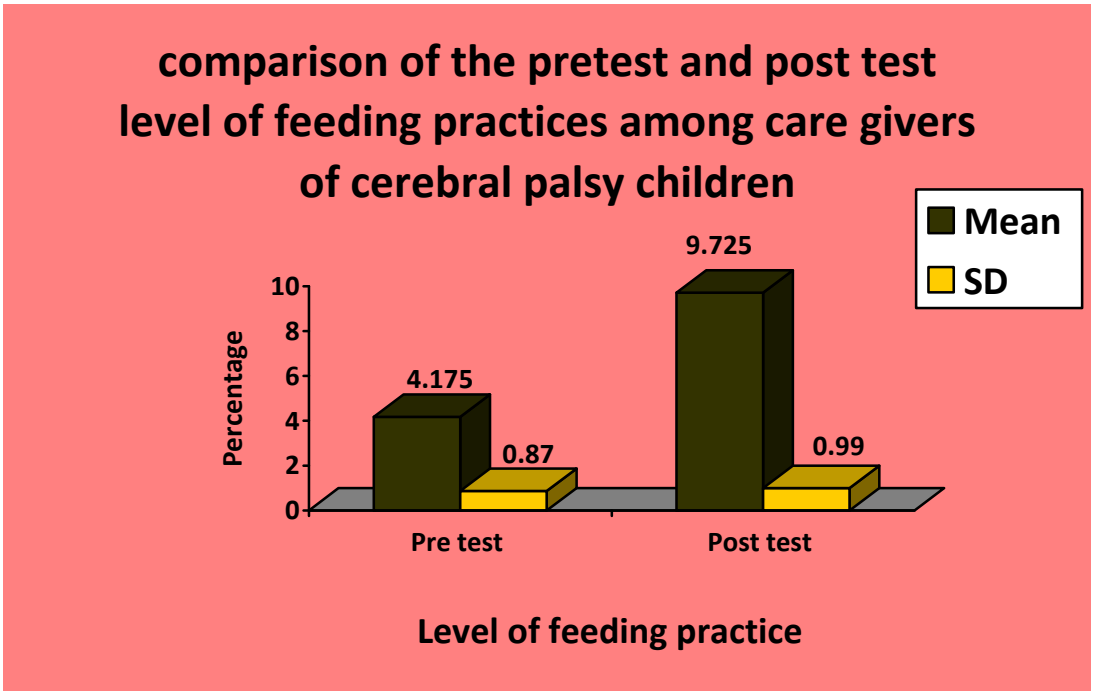


Fig 16 Distribution of comparison of the pretest post test level of feeding practices.

Comparison of the level of feeding practices among care givers of cerebral palsy marks the comparison of the level of feeding practices among care givers of cerebral palsy children. The mean pretest level of feeding practices score was 4.175 with a standard deviation 0.87 and the mean post test feeding practices score was 9.725 with a standard deviation 0.99 the obtained paired " t" value 27.42 which was higher than the table value. So the researcher observed that there is a highly significant.

Section IV

Describes associate level of feeding practices among caregivers of cerebral palsy children with their selected socio demographic variables.

Table No 5.

Association between level of feeding practice in post test and selected demographic data.

n-40

S.No	Demographic variables	Poor		Fair		Good		χ^2	p-value
		F	%	F	%	F	%		
1.	**Age of the mother (in years)**								
	20-30 years	-	-	4	10	26	65	1.48	0.224
	31-40 years	-	-	0	0	10	25	(df=1)	NS
	41-50 year	-	-	0	0	0	0		
	More than 50 years	-	-	0	0	0	0		
2.	**Age of the child**								
	1-2 years	-	-	3	7.5	15	37.5	2.35	0.309
	2-4 years	-	-	0	0	13	32.5	(df=2)	NS
	5-6 years	-	-	1	2.5	8	20		
3.	**3.Sex of the child**								
	Male	-	-	2	5	21	52.5	0.102	0.749
	Female	-	-	2	5	15	37.5	(df=1)	Ns
4.	**4.Birth order of the child**								
	I	-	-	3	7.5	25	62.5		
	II	-	-	1	2.5	8	20	0.36	0.948
	III	-	-	0	0	2	5	(df=3)	NS
	IV	-	-	0	0	1	2.5		
	V	-	-	0	0	0	0		

5.	**Family members affected by cerebral palsy**								
	Siblings	-	-	0	0	2	5	1.29	0.731
	Parents	-	-	0	0	1	2.5	(df=3)	NS
	Relatives	-	-	0	0	6	15		
	None	-	-	4	10	27	67.5		
6.	**Number of children in family**								
	1	-	-	2	5	19	47.5		
	2	-	-	1	2.5	12	30	0.378	0.828
	3	-	-	1	2.5	5	12.5	(df=2)	NS
	4	-	-	0	0	0	0		
	5	-	-	0	0	0	0		
7.	**Type of family**								
	Nuclear	-	-	3	7.5	12	30	2.67	0.102
	Joint	-	-	1	2.5	24	60	(df=1)	NS
8.	**Education of mother**								
	No formal education	-	-	0	0	3	7.5		
	Primary education	-	-	2	5	5	12.5	8.08	0.089
	Secondary education	-	-	1	2.5	17	42.5	(df=4)	NS
	Higher secondary education	-	-	1	2.5	1	2.5		
	Graduate	-	-	0	0	10	25		
9.	**Occupation of father :**								
	Labour	-	-	3	7.5	14	35	2.13	0.545
	Private	-	-	1	2.5	15	37.5	(df=3)	NS
	Own business	-	-	0	0	5	12.5		
	Government	-	-	0	0	2	5		
10.	**.Family income :**								
	2000-4000/month	-	-	2	5	8	20	1.54	0.462
	5000-7000/months	-	-	1	2.5	17	42.5	(df=2)	NS
	8000-10000/months	-	-	1	2.5	11	27.5		

11.	**Place of residence**								
	Urban	-	-	1	2.5	14	35	1.85	0.396
	Rural	-	-	3	7.5	15	37.5	(df=2)	S
	Semi Urban	-	-	0	0	7	17.5		
12.	**Nature of delivery**								
	Normal	-	-	1	2.5	22	55	1.93	0.381
	Caesarian	-	-	2	5	9	22.5	(df=2)	NS
	Forceps	-	-	1	2.5	5	12.5		
13.	**Type of cerebral palsy :**								
	Spastic	-	-	3	7.5	20	50	0.56	0.455
	Ataxic	-	-	1	2.5	16	40	(df=1)	NS
	Atheoid	-	-	0	0	0	0		
	Mixed	-	-	0	0	0	0		

-P<0.05 , significant and **-P<0.01 &-P<0.001 , Highly significant**

The above table 5 shows the level of feeding practices among care givers of cerebral palsy children with their selected socio demographic variables. Chi square analysis was done. There is significant association between the post test level of feeding practices with their selected socio demographic variable only on place of residence. No other socio demographic variable such as Age of mother, Age of the child, ,sex of the child, birth order of the child, family members affected by cerebral palsy,, education of mother, number of children in the family, income Type of family, Nature of delivery, type of cerebral palsy are not significantly associated with the post test level of feeding practices.

Discussion

CHAPTER V

DISCUSSION

The majority of children with neurological impairment who aspirate have an intact swallowing reflex. It is thought their feeding problems are most likely due to poor coordination of the tongue, lips, cheek, and larynx. (morris,1989,Leopold 1983) They also found that children who aspirated pureed consistencies had a greater risk for pneumonia than comparable children. Who did not aspirate this consistency. Children who aspirated only thin fluids have increase in pneumonia risk. A primary goal of feeding interventions and programs is to ensure that the child can eat safely with out choking or getting food in their airway (aspirating) once safety is established therapy focuses on increasing the amount and range of foods a child can eat with the goal of feeding programme. To ensure that the safest and most effective feeding intervention.

Hence the study aimed in evaluating the effectiveness of assisted feeding practices on prevention of risk of aspiration in cerebral palsy children among caregivers. The study findings from the observation checklist are elicited here to provide a clear understanding of the caregiver' feelings while caring their loved ones with cerebral palsy children

The findings of the study are discussed with reference to the objectives and hypotheses stated in chapter II and the findings related to the study.

The aim of the study was to evaluate the effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among care givers in pediatric ward GRH, Madurai.

The objectives of the study were to

1. To assess the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH, ,Madurai.
2. To evaluate the effectiveness of assisted feeding practices on among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH Madurai.
3. To associate the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children with their selected socio demographic variables.

The following Hypotheses were tested at 0.01 level of significance

H_1 – There is significant differences between pre test and post test level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children. in pediatric ward, GRH, Madurai.

H_2- There is significant association between the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children with their selected socio demographic variables.

The findings of the study were as follows :

The sample included 40 care givers of cerebral palsy children.

5.1 Description of socio demographic variables among the care givers of cerebral palsy children

Considering the age wise distribution of mother (75%) 30 mothers were in 20-30 yrs of age, 10 (25%) 10 mothers were in 31-40 yrs of age. 0(0%) were in 41-50 yrs of age. 0 (0%) were in more than 50 yrs of age.

Regarding Age of the child 18(45%) were in 1-2 yrs of age, 13 (32.5%) were in 2-4 yrs of age, 9(22.5) were in 5-6 yrs of age.

Regarding sex of the child 23 (57.5%) were in male child, 17 (42.5%) were in Female child.

Regarding birth order of the child 28 (70%) were in I order of the child, 9 (22.5%) were in II order of the child, 2 (5.0%) III order of the child, ! (2.5%) IV the order of the child, 0 (0%) V th order of the child.

Regarding to the family members affected by cerebral palsy 2 (5%) were in siblings, 1 (2.5%) were in parents, 6 (15%) were in relatives, 31 (77.5%) were in none.

Related to Number of children 21 (52%) belongs to 1 children in the family. 13 (32.5%) were in 2 two children in the family. 6 (15%) 3 children in the family. remaining 0(0%) were in 4 children, 0 (0 %) were in 5 children in the family.

Regarding the type of family 15 (37.5%) were in Nuclear family, 25 (62.5%) were in joint family,

Based on education of the mother 3 (7.5%) were in No formal education, 7 (17.5.%) were in primary education, 18 (45%) were in secondary education, 2 (5%) were in Higher secondary education, 10 (25%) were in graduates

Regarding occupation of father 17 (42.5) were in Labour, 16(40%) were in private, 5 (12.5%) were in own business, 2 (5 %) were in Government.

Regarding the family income 10 (25%) 2000-4000 /month,,18 (45 %) were in 5000-7000/month, 12 (30%) were in 8000-10000/month.

Regarding the place of residence 15 (37.5%) were in urban area, 18 (45%) were in rural, 7 (17.5%) were in semi urban.

Regarding the nature of delivery 23 (57.5%) were in Normal delivery, 11 (27.5%) were in caesarian 6 (15%) were in forceps delivery.

Regarding the type of cerebral palsy 23(57.5%) were in spastic type,, 17 (42.5%) were in ataxic type, 0(0 %) were in atheoid type, 0 (0%) were belongs to mixed type.

5.2 Discussion of the study based on its objectives

The first objective of the study was to assess the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH Madurai.

Table No 3 revealed that 40 care givers of cerebral palsy children in the pretest majority of then 27 (67.5%) of them were poor feeding practices, 13 (32.5%) of them were fair feeding practices, 0(0 %) of them were good feeding practices. Where as in the post test majority of them 4 (10%) of them were fair feeding practices, 36 (90 %) of them were good feeding practices. 0 (0%) none of them were poor feeding practices. There was a significant difference in the level of feeding practice between the pretest and post test. The post test feeding practice score was increased after the 30 minutes intervention thrice a day on assisted feeding practices. Hence the difference in the level of feeding practices was due to choice and not due to chance. It can be proved that assisted feeding practices was effective in increasing the level of feeding practices among the care givers of cerebral palsy children.

This study was consistent with the descriptive survey to find out magnitude and extent of feeding dysfunction feeding impairment &oromotor dysfunction. 33 sample children taken from purposive sampling technique with confirmed diagnosis of CP (7 – 96 month) were assessed for oromotor functions & interview of parent was taken for detailed feeding history and feeding habits. Feeding skill assessment

was based on Gisel and Patrick's feeding behavior skill score. Score of 4 or less was regarded as normal, score of 5-8 was defined as marginal problem & score of 9 or more was regarded as inadequate feeding skills. Maximum inadequate feeding skills present in spastic quadri CP (75.0%) & with GMFCS V. Problems found were sucking and swallowing problems, inability to self feed (48.5%), prolong feeding time (mean feeding time was 22.42 minutes, SD = 13.44 confidence interval (95%), improper feeding positions, coughing and chocking during feeding (6.1%), vomiting (3.0%), recurrent chest infections, oral motor dysfunction, drooling, cry / strong extensor thrust during feeding.

The second objective of the study was to evaluate the effectiveness of assisted feeding feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH, Madurai.

The intervention assisted feeding practices on prevention of risk of aspiration created a vast difference between the scores obtained by the care givers of cerebral palsy children between the pretest and post test . Table 4 marks the comparison of the level of feeing practices among care givers of cerebral palsy children In order to find out the difference between the pretest and post test level of feeding practices among care givers of cerebral palsy children and paired 't' test was done between the pretest and post test scores. ,With regard to the feeding practices levels the mean pretest stress score was 4.175 with standard deviation of 0.87 and mean post test feeding practices score was 9.725 with a standard deviation of 0.99. The obtained paired " t" value 27.42 which was higher than table value and hence showed significant difference.

Whereas table 5 shows the effect of assisted feeding practices on prevention of aspiration in cerebral palsy children among care givers of cerebral palsy children. In

order to find out the effect of assisted feeding practices on prevention of risk of aspiration in cerebral palsy children among care givers of cerebral palsy children and paired “t” test was done between the pretest and post test scores.

Regarding to the feeding practices levels the mean pretest stress score was 4.175 with standard deviation of 0.87 and mean post test feeding practices score was 9.725 with a standard deviation of 0.99. The obtained paired “ t” value 27.42 was significant at $p < 0.001$ level.

This revealed that there was a significant difference in the mean feeding practice scores between the preest and post test of the caregivers of cerebral palsy children . paired t test also showed a significant differences between the pretest and post test. This differences was due to the intervention thrice a day of assisted feeding practices. This proved clearly that 30 minutes to 40 minutes minutes interventions of assisted feeding practices was effective in increasing level of feeding practices among caregivers of cerebral palsy children.

This study was consistent with the true experimental study conducted by Malarine Adams (2015 to evaluvate effectiveness of a training programme to improve the feeding practices of carers of children with CP, observing the impact on level of, prevention of aspiration and distress caused to both during feeding in bangaledesh. convenience sampling was used.. Thirty-seven caregivers and their children aged 1-11 with moderate-severe CP and feeding difficulties were invited to a six-session training programme. Pre and post measures (quantitative and qualitative) were taken during home visits in addition to giving brief advice. A control phase was evaluated for 12 of the participant pairs whilst awaiting training. A minimum of four training sessions was successful in significantly improving children’s feeding practices., maximizing independence in feeding, improving the experience of

mealtimes for both child and caregiver, decreasing caregiver stress regarding their child's feeding difficulties and improving child levels of cooperation. Catch-up growth was observed in 26% of the children. A significant difference in the outcomes between advice only and groups was observed in careers in Bangladesh, who have minimal formal education and live in abject poverty are able to change care-giving practices significantly after four training sessions, with positive consequences for both child and caregiver.

This study was also supported bye the randomized control study conducted by Kelly cristine Schmidt et. Al. (2014) was to analyze the electrical activity of Masseter and Temporalis muscles and the pattern of posture and movement of the head and jaws of children with cerebral palsy (CP). the sample comprised 32 volunteers with spastic CP and with normal development, with ages ranging from 7 to 13 years of age, Simultaneously, we evaluated the position and movement of the head and jaw and electrical activity of Temporalis and Masseter muscles by means of kinematic and electromyography. In the CP group, there was greater asymmetry of the temporalis muscle ($p<0.05$), more head extension at maximum mouth opening ($p<0.05$), greater range of head extension ($p<0.01$) and greater range of anterior projection of the head ($p<0.05$) the greater asymmetry in muscle activity, the greater extension and projection of the head during the chewing cycle can be causes of disorders of the oral motor function of children with CP.

Hence the Hypotheses – H_1 : "There is significant differences between pre test and post test level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH, Madurai.." was accepted.

Regarding to the feeding practices levels the mean pretest stress score was 4.175 with standard deviation of 0.87 and mean post test feeding practices score was 9.725 with a standard deviation of 0.99. The obtained paired " t" value 27.42 was significant at $p < 0.001$ level. This revealed that there was a significant difference in the mean feeding practice scores between the preest and post test of the caregivers of cerebral palsy children . paired t test also showed a significant differences between the pretest and post test. This differences was due to the intervention thrice a day of assisted feeding practices. This proved clearly that 30 minutes to 40 minutes interventions of assisted feeding practices was effective in increasing level of feeding practices among caregivers of cerebral palsy children.

The third objective was. to associate the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children with their selected socio demographic variables.

The study reveals that there is a significant association between the level of feeding practices and selected socio demographic variables a chisquare analysis was done. Table : 5 reveals the association between the post test level of feeding practices and selected socio demographic variables**.**

Whereas table 5 shows the association between post test level of feeding practices and selected socio demographic variables.

As indicated in the above mentioned table post test place of residence ($X^2 = 1.85$, $p = 0.396$ had a significant association with the level of feeding practices at p <o.oo1. No other variables ehad a significant association with the level of feeding practices.

This study was consistent with the prospective study conducted by Birgit Filipiak anne zeutavem (2014) to assess the association between the introduction of

solid foods in the first 12 months during the first 4 years of life in a prospective study of newborns.Data were taken from annually administered questionnaires from a large birth cohort (recruited 1995–1998) comprised of an intervention and a nonintervention group.. Multiple generalized estimation equation models were performed for the 2 study groups.From the 5991 recruited infants, 4753 (79%) were followed up. The 2 study groups were different in their family risk of feeding practices. No association was found between the time of introduction of solids or the diversity of solids In the nonintervention group, a decreased risk was observed for avoidance of soybean/nuts, and avoidance of egg in the first year. The evidence from this study supports neither a delayed introduction of solids beyond the fourth month nor a delayed introduction of the most potentially allergenic solids beyond the sixth month of life for the prevention of risk of aspiration

This study was also supported by the randomized prospective study conducted by Seray Nural sigan et. Al (2013 to assess the effect of oral motor therapy on oral functions and neuromotor development in children with CP in Istanbul University sample were consecutively chosen 81 patients aged 12-42 months that were diagnosed with CP, who answered positively to having at least one or more problems of oral motor functions such as sucking, chewing, swallowing, drooling and independent feeding.. Forty one patients made up the training group, while the other 40 served as the control group. All patients continued to receive routine physiotherapy guided by Istanbul University Istanbul Medical Faculty Department of Physiotherapy and Rehabilitation. The patients' families were informed, that our aim was to provide oral motor therapy in order to strengthen oral motor functions, reduce drooling and feeding problems, and increase daily life activities of the patient. During the first meeting prior to the start of training, informed written consent was obtained from a

legal guardian by our research nurse. The average patient age was 24.32 months ± 10.86 months in the training group and 28.15 months ± 10.22 months in the control group. In the training group, 62.25% of patients were female (n = 25) and 37.5% were male (n = 15); in the control group, 50% were female (n = 20) and 50% were male (n = 20). There was no significant difference between groups in terms of sex, age, clinical types of CP and initial presence and types of oral motor difficulties (P > 0.05). Prior to therapy, no significant difference was found between groups in terms of tongue, jaw and mouth function, swallowing difficulties, severity of drooling, and tolerated food texture (P > 0.05). The average pre-therapy FFA and BSID-II scores did not vary significantly between groups (P > 0.05).

Hence the Hypotheses : H_2 To evaluate the effectiveness of assisted feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, G R H, Madurai. was accepted.

Summary, Conclusion, Implications & Recommendations

CHAPTER VI

SUMMARY, CONCLUSION AND IMPLICATIONS

RECOMMENDATIONS

This chapter presents the summary of the study and conclusion drawn. Clarifies the limitation of the study, the implications and the recommendations, different areas like nursing practice, nursing education, nursing administration and nursing research**.**

6.1 Summary of the Study

statement of the problem

"A study to evaluate the effectiveness of assisted feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH Madurai."

Objectives of the study were

1. To assess the level of feeding practices among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH ,Madurai.
2. To evaluate the effectiveness of assisted feeding practices on among caregivers on prevention of aspiration in cerebral palsy children in pediatric ward, GRH , Madurai.
3. To associate the level of feeding practices on prevention of aspiration in cerebral palsy children with their selected demographic variables.

The following hypotheses were tested

H_1 – There is significant differences between pre test and post test level of feeding practices on prevention of aspiration in cerebral palsy children in pediatric ward, GRH, Madurai.

H_2- There is significant association between the level of feeding practices on prevention of aspiration in cerebral palsy children with their selected demographic variables.

The study Assumptions were

Care givers may practice different level of feeding technique while feeding in cerebral palsy children.

The conceptual model of this study was based on King's goal attainment theory. The study was conducted by using pre experimental design one group pretest post test design was used. The population of the study was the care givers of cerebral palsy children. Those who are in pediatric ward at Government Rajaji Hospital Madurai. Consecutive sampling technique was used to select the sample. The study consists of 40 caregivers. A pilot study was conducted among 5 subjects in pediatric ward at Government Rajaji Hospital Madurai. to find out the feasibility and practicability for conducting the study. After testing the validity and reliability the tool was used for data collection The participants of the pilot study was excluded from the study. Data gathered were analyzed by using both descriptive and inferential statistics.

6.2 Major findings of the study were

Considering the age wise distribution of mother (75%) 30 mothers were in 20-30 yrs of age, 10 (25%) 10 mothers were in 31-40 yrs of age. 0(0%) were in 41-50 yrs of age. 0 (0%) were in more than 50 yrs of age.

Regarding Age of the child 18(45%) were in 1-2 yrs of age, 13 (32.5%) were in 2-4 yrs of age, 9(22.5) were in 5-6 yrs of age.

Regarding sex of the child 23 (57.5%) were in male child, 17 (42.5%) were in Female child.

Regarding birth order of the child 28 (70%) were in I order of the child, 9 (22.5%) were in II order of the child, 2 (5.0%) III order of the child, ! (2.5%) IV th order of the child, 0 (0%) V th order of the child.

Regarding to the family members affected by cerebral palsy 2 (5%) were in siblings, 1 (2.5%) were in parents, 6 (15%) were in relatives, 31 (77.5%) were in none.

Related to Number of children 21 (52%) belongs to 1 children in the family. 13 (32.5%) were in 2 two children in the family. 6 (15%) 3 children in the family. remaining 0(0%) were in 4 children, 0 (0 %) were in 5 children in the family.

Regarding the type of family 15 (37.5%) were in Nuclear family, 25 (62.5%) were in joint family,

Based on education of the mother 3 (7.5%) were in No formal education, 7 (17.5.%) were in primary education, 18 (45%) were in secondary education, 2 (5%) were in Higher secondary education, 10 (25%) were in graduates

Regarding occupation of father 17 (42.5) were in Labour, 16(40%) were in private, 5 (12.5%) were in own business, 2 (5 %) were in Government.

Regarding the family income 10 (25%) 2000-4000 /month,,18 (45 %) were in 5000-7000/month, 12 (30%) were in 8000-10000/month.

Regarding the place of residence 15 (37.5%) were in urban area, 18 (45%) were in rural, 7 (17.5%) were in semi urban.

Regarding the nature of delivery 23 (57.5%) were in Normal delivery, 11 (27.5%) were in caesarian 6 (15%) were in forceps delivery.

Regarding the type of cerebral palsy 23(57.5%) were in spastic type,, 17 (42.5%) were in ataxic type, 0(0 %) were in atheoid type, 0 (0%) were belongs to mixed type.

In pretest majority of then 27 (67.5%) of them were poor feeding practices, 13 (32.5%) of them were fair feeding practices, 0(0 %) of them were good feeding practices. Where as in the post test majority of them 4 (10%) of them were fair feeding practices, 36 (90 %) of them were good feeding practices. 0 (0%) none of them were poor feeding practices.

After Demonstrate the assisted feeding practices post test results shows that 4(10%) fair feeding practices, 36(90%) were in good feeding practices and 0 (0%) were in poor feeding practices.

In the respect of level of feeding practice regarding pretest and post test mean score in 4.175, 9.725 ,standard deviation score in 0.87,,0.99 respectively. Mean difference between the pretest and post test is 5.55. paired “t” test value is 27.42 . The calculated value is 27.42 is much higher than table value at $p<0.001$ level of significance. So the researcher observed that there is a highly significant regarding increase level of feeding practices among care givers of cerebral palsy children. In pediatric ward, GRH, Madurai and also assisted feeding practices is very much effective.

6.3 Conclusion

This study is statistically proved that assisted feeding practices increased the level of feeding practices among care givers of cerebral palsy children .Assisted feeding practices were cost effective, non pharmacological and free from side effects. It can be used by the caregivers to prevent the risk of aspiration on cerebral palsy children.

6.4 Implications

The findings of the study have several implications on nursing practice, Nursing administration, nursing education and nursing research that can be used in the following areas of profession..

Nursing Practice

- The nurses need adequate awareness regarding feeding practices for cerebral palsy children.
- Nurses are the key persons of the health team, who play a major role in health promotion and maintenance. The main focus of nursing practice is to reduce the mortality and morbidity rate and to improve the quality of life.
- Different methods of teaching can be used to improve the awareness.
- The child health Nurses can plan teaching programme like mass education on feeding intervention for cerebral palsy children..

Nursing Education

- Nurse educations used to play emphasis on feeding practices follow and care its importance and help the care givers to take care of their children.
- Creating awareness on feeding practices among caregivers should be the part of curriculum of teaching students.

- Nurse educators help to conduct educational programs among caregivers of cerebral palsy children to improve the awareness of feeding practices such as positioning, jaw control support, control the tongue, observed the feeding problems, and prevention of risk of aspiration.
- Nursing curriculum should provide opportune to plan develop and administration of innovative method for healthy teaching in various setting along with other audio visual aids.

Nursing research

- Nurse researcher should conduct extensive and intensive research in the area of f feeding practices of cerebral palsy children. So that strategies for demonstrate the feeding interventions to care givers be promoted. A research study can make remarkable changes in their feeding practices and potentials and thereby improving the quality of nursing priogramme.
- From this the investigator felt the need for nursing research in the areas of audiovisual aids as an alternative for health education to improve the feeding practices of caregivers of vsrious aspects and to increase their interest in learning.

Nursing administration

- Nurse administrators are the back bone to provide facilities to improve level of feeding practices among care givers of cerebral palsy children
- The nurse administrators should encourage nurse to develop of varieities of educational material.
- Nurse administrator should take initiative to organize continuous education for care givers of cerebral palsy children regarding feeding interventions.

- Appropriate teaching/ learning materials need to be prepared and made available caregivers of cerebral palsy children.
- Training and implementation of different strategies need separate allocation of resources.
- Separate budgets should be allocated for innovative educational aids**.**

6.5 Recommendations

Keeping in view of the findings of the pretest study the following recommendations are made.

- A similar study can be conducted on a large sample to generalize the study findings.
- A comparative study can also be done to compare the effects of assisted feeding practices with other methods like video assisted teaching etc.
- A comparative study can be conducted between caregivers of educated mother and un educated mothers.

Bibliography

REFERENCES

Book Reference

1. Basavanthappa B.T (2009). *Nursing Research* (1st Edition). New Delhi : Published by jaypee brothers medical publishers.
2. Basavanthappa B T.(2009). *Nursing Theories*. 2nd ed. NewDelhi. jaypee .
3. Beharaman, Richerd & K, Nelson (2009). *Text book of pediatrics*. 19th ed. Philadelphia: W B Saunders
4. Denise, F. Polit, & Cheryl Tetano Beck. (2004). *Nursing Research Principles and Methods.* (7thed.). Philadelphia: Lippincott.
5. Dorathy R Marlow. & Barbara. A. Redding (1998). *Text Book of Pediatric Nursing* (6th Edition). Philadelphia: published by W.B.Saunders Company.
6. Dutta A K.(2007). *Advances in Pediatrics*. 6th ed. NewDelhi. Jaypee.
7. Fawcett jacquiline. (1989). Analysis and evaluation of conceptual model of nursing .Philadelphia:F.A.Davis.
8. Geri lobiondo-wood., & Judith haber. (2006*). Nursing research*. (6thed.).st.louis: mosby publications.
9. Ghai, O.P. (2004). *Essential pediatrics* .(6Eds.). New delhi : CBS publisher.
10. Glencoe.(1996).*Understanding Psychology*. (4 Eds.).California:MC.Grow Hill publishers.
11. Gupta. S. P (2002). *Statistical Methods*. New Delhi: Sultan Chand & Sons Publishers.
12. Hockenberry .wilson & winkelstienklive. (2006). *Wong's nursing care of infants and children* .(7Eds.) . New delhi :Elsevier publishers.

13. Julia. B George.(1996). *Nursing Theories*. 3rd ed. New Jersy: Prentice Hall company.

14. Julius Scott.(2011). *Scott's Pedia – Tricks.*3rd Edition, Hyderabad : Hitesh Kothari Paras medical Books pvt.Ltd.

15. Kothari C.R (2001).*Research Methodology: Methods and Techniques*(2 Eds).NewDelhi: Vishva Prakash Publishers

16. Lippincott Williams Wilkins. (2010). *Manual of Nursing Practice*. 9th edition. New Delhi: Wolters Kluwer (India) Pvt Ltd.

17. Mahajan. B. K. (1991). *Methods in Biostatistics*. New Delhi: Jaypee Brothers

18. Marlow Dorothy R , Barbara.(2009). *Text book of Pediatric Nursing.* 6th ed. Philadelphia: W B Saunders.

19. Marilyn J Hockenberry.(2009). *Essentials of Pediatric Nursing.* 8th ed. St. Louis. : Mosby Elsevier

20. Polit., Beck.,& Hungler, P. (2001). *Essentials of Nursing Research*.(4th ED.). Philadelphia: Lippincott Raven Publishers.

21. Panchalipal.(2016). *Test Book of Pediatric Nursing.* 1st edition.Putlibowli: Paras Medical Publisher.

22. Polit.,Hungler.(2009). *Nursing research Principles and Methods.* 8th ed. Philadelphia: J.P. Lippincott

23. Rose Marie Linda. (2008). *Foundations of Nursing Research*.(5th ED.). New Delhi: Pearson Prentice Hall.

24. Santhosh Kumar.A.(2016). *Hand book of Pediatric.*5th Edition.New Delhi: Rajencler kumar Arya.

25. Santhosh Kumar.A.(2014). *Pediatric Clinical Examination.*4th Edition. Hydrabed : Paras medical publisher.

26. Viswanathan .J. desai. (2006). *Achar's text book of paediatrics*. (3Eds).new delhi :orient longman publications

Journal Reference

1. American Academy of Pediatrics, Section of Pediatric Dentistry. 2003. Oral health risk assessment timing and establishment of the dental home. Pediatrics 3(5):11131116.
2. New a check PW, Hughes DC, Hung YY, Wong S, Stoddard JJ. 2000. The unmet needs of America's children. Pediatrics 105(4 Pt. 1):989-997.
3. Mouradian WE, Wehr E, Crall JJ. 2000. Disparities in children's oral health and access to dental care. JAMA 282(20):2625-2631.
4. Tang JM, Altman DS, Robertson DC, O'Sullivan DM, Douglass JM, Tinanoff N. 1997. Dental caries prevalence and treatment levels in Arizona preschool children. Public Health Reports 12(4):319-329.
5. Drury TF, Horowitz AM, Ismail AI, Maertens MP, Rozier RG, Selwitz RH. 1999. Diagnosing and Reporting Early Childhood Caries for Research Purposes. Journal of Public Health Dentistry 59(3):1992-1997.
6. U.S. Department of Health and Human Services. 2000. Healthy People 2010: Volume II (2nd ed.). Washington, DC: U.S. Department of Health and Human Services. /Document/HTML/Volume2/21Oral.htm.
7. Vargas CM, Crall JJ, Schneider DA. 1998. Sociodemographic distribution of pediatric dental caries: NHANES III, 1988-1994. Journal of the American Dental Association 129(9):1229-1238.

8. Centers for Disease Control and Prevention. 2000. Achievements in public health, 1900-1999: Fluoridation of drinking water to prevent dental caries. Morbidity and Mortality Weekly Report 48(41):933-940.
9. Barsley R, Sutherland J, McFarland L. 1999. Water fluoridation and costs of Medicaid treatment for dental decay — Louisiana, 1995-1996. Morbidity and Mortality Weekly Report 48(34):753-757.
10. Newacheck PW, McManus M, Fox HB, Hung YY, Halfon N. 2000. Access to health care for children with special health care needs. Pediatrics 105(4 Pt. 1):760-766.
11. Schechter N. 2000. The impact of acute and chronic dental pain on child development. Journal of the Southeastern Society of Pediatric Dentistry 6(2):16-17.
12. Miranda-Rius J, Brunet-Llobet L, Lahor-Soler E, Farré M. Salivary Secretory Disorders, Inducing Drugs, and Clinical Management. Int J Med Sci 2015; 12(10):811-824. doi:10.7150/ijms.12912
13. Denton, E. (1999). Palliative care: Mouth care an indicator of the level of nursing care a patient receives? *Journal of Community Nursing*, 13(11), 8-11.
14. Gillam, J. L. & Gillam, D. G. (2006). The assessment and implementation of mouth care in palliative care: a review. *The Journal of the Royal Society for the Promotion of Health*, 126(1), 33-37
15. Huskinson, W. & Lloyd, H. (2009). Oral Health in hospitalized patients: assessment and hygiene. *Nursing Standard*, 23(36), 43-47.
16. Evans G (2001) A rationale for oral care. *Nursing Standard.* 15, 43, 33-36.Date of acceptance: March 28 2001.

17. Abdul-Aziz M. effect of educational program on nurses, knowledge and skills about oral care for traumatized patients, AAMJ, 2014;12 (1): 25-47.
18. Labeau S, Van de Vyver K, Brusselaers N, Vogelaers D, Blot SI. Prevention of ventilatorassociated pneumonia with oral antiseptics: a systematic review and meta-analysis. The Lancet Infectious Diseases J 2011;11(11):845–54.
19. Chastre J and Fagon J. Ventilator-associated Pneumonia", American Journal of Respiratory and Critical Care Medicine, 2002; 165(7): 867-903.
20. Wårdh I , Hallberg L, Berggren U, Andersson L and Sörensen S. Oral health care- a low priority in nursing. In depth interviews with nursing staff." Scand J Caring Sci 2000; 14(2): 137-42.
21. Prendergast,V., Hallberg,I., Jahnke, H., Kleiman, C., Hagell, P. Oral health, ventilator acquired pneumonia, and intracranial pressure in intubated patients in a neuroscience intensive care unit. American Journal of Critical Care, 2009; 18(4):368-76.
22. Berry A, Davidson P, Masters J and Rolls K. Systematic literature review of oral hygiene practices for intensive care patients receiving mechanical ventilation Am J Crit Care. 2007;16(6):552-62 .
23. Haffajee A, Thompson M, Torresyap G, Guerrero D, Socransky S. Efficacy of manual and powered toothbrushes (I). Effect on clinical parameters. J Clin Periodontol (2001); 28(1):937-46.
24. Heanue M, Deacon S, Deery C, Robinson P, Walmsley A and Worthington H. Manual versus powered toothbrushing for oral health,Cochrane Database Syst Rev 2003; (1).

25. Lazarescu, D., Boccaneala, S., Illiescu, A., & De Boever, J. Efficacy of plaque removal and learning effect of a powered and a manual toothbrush. Journal of Clinical Periodontology, 2003; 30(8):726-31.
26. .Robinson, P. Deacon, S., Deery, C., Heanue, M.,Walmsley, A., Worthington, H., I Shaw, W. Manual versus powered tooth brushing for oral health. Cochrane Database of Systematic Reviews,2005;18 (20): 1-5.
27. Williams, K., Ferrante, A., Dockter, K., Haun, J., Biesbrock, A, & Bartizek, R.. One- and 3- minute plaque removal by a battery-powered versus a manual toothbrush. Journal of Periodontology, 2004; 75(8): 1107-13.
28. Terezakis E, Needleman I, Kumar N, Moles D, Agudo E. The impact of hospitalization on oral health's systematic review. J Clin Periodontol , 2011; 38(7): 628-36.

Net Reference

1. http://www.ccn.aacnourals.org
2. http://www.clincaltrials.gov
3. http://www.currentnursing.com
4. http://health.allrefer.com/health/nursing assessment-info.html
5. http://www.medscape.com
6. http://www.ncbi.nlm.nih.gov
7. http://www.nursingtimes.net.com
8. http://www.pubmed.com
9. http://www.sciencedirect.com
10. http://www.thecochranelibrary.com
11. http://www.tnhealth.org
12. http://www.wikipedia.com

13. http://www.ncbi.nlm.nih.gov/pubmed

14. www.clinicalestablishments.nic.in

15. http://ajcc.aacnjournals.org

16. www.aapd.org

17. www.nidcr.nih.gov

18. http://ccn.aacjournals.org

19. www.guideline.gov

20. http://www.explainthatstuff.com/electrictoothbrush.html

21. http://www.nidcr.nih.gov

22. http://www.cdc.gov

23. http://www.healthypeople.gov

Appendices

APPENDIX – I

LETTER SEEKING PERMISSION FOR CONDUCTING THE STUDY

From

K. UMA SOUNDARI.,
M.Sc (N) II year student (Br- II. Child Health Nursing),
College of Nursing,
Madurai Medical College, Madurai – 20.

To

DIRECTOR.
.Institute of Child Health and Research Centre,
Government Rajaji Hospital,
Madurai Medical College,
Madurai.

Through

The Proper Channel

Respected Sir,

Sub : CON-MMC- Madurai – M.Sc.(N) II year Child Health Nursing Student – Permission for conduct dissertation study- Institute of Child Health and Research Centre, GRH at Madurai request –Regarding

****

As per the Indian Nursing Council and the Tamilnadu Dr. M.G.R. Medical University curriculum requirement all branches of M.Sc Nursing candidates are required to conduct a dissertation study for the partial fulfillment of the P.G Degree course in their respective departments.

I have selected a study topic **"A Study to evaluate the Effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among caregivers in pediatric ward, GRH, Madurai.** for my dissertation study I would like to select cerebral palsy children from the above department.

I assure that I will not interfere with the routine activities of the department.

Hence, I Kindly request you to consider my requisition and permit me to conduct the study.

Thanking you,

Yours obediently,

K. Umasoundari

(K. UMA SOUNDARI.)

Madurai
DATE :

Permitted

6/3/17

APPENDIX – II

MADURAI MEDICAL COLLEGE
MADURAI, TAMILNADU, INDIA -625 020
(Affiliated to The Tamilnadu Dr.MGR Medical University,
Chennai, Tamil Nadu)`

Prof Dr V Nagaraajan MD MNAMS
DM (Neuro) DSc.,(Neurosciences)
DSc (Hons)
Professor Emeritus in Neurosciences,
Tamil Nadu Govt Dr MGR Medical University
Chairman, IEC

Dr.M.Shanthi, MD.,
Member Secretary,
Professor of Pharmacology,
Madurai Medical College, Madurai.

Members

1. Dr.K.Meenakshisundaram, MD (Physiology)Vice Principal, Madurai Medical College

2. Dr.Sheela Mallika rani, M.D., Anaesthesia , Medical Superintendent Govt. Rajaji Hosptial, Maudrai

3.Dr.V.T.Premkumar,MD(General Medicine) Professor & HOD of Medicine, Madurai Medical & Govt. Rajaji Hospital, College, Madurai.

4.Dr.D.Maruthupandian, MS., Professor & H.O.D. Surgery, Madurai Medical College & Govt. Rajaji Hosptial, Madurai.

5.Dr.G.Meenakumari, MD., Professor of Pathology, Madurai Medical College, Madurai

6.Mrs.Mercy Immaculate Rubalatha, M.A., B.Ed., Social worker, Gandhi Nagar, Madurai

7.Thiru.Pala.Ramasamy, B.A.,B.L., Advocate, Palam Station Road, Sellur.

8.Thiru.P.K.M.Chelliah, B.A., Businessman,21, Jawahar Street, Gandhi Nagar, Madurai.

ETHICS COMMITTEE CERTIFICATE

Name of the Candidate	:	K.Uma soundari
Course	:	M.Sc., Nursing (Child Health Nursing)
Period of Study	:	2015 - 2017
College	:	MADURAI MEDICAL COLLEGE
Research Topic	:	Effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among caregivers in pediatric ward, GRH, Madurai
Ethical Committee as on	:	08.02.2017

The Ethics Committee, Madurai Medical College has decided to inform that your Research proposal is accepted.

Member Secretary Chairman Dean / Convenor

Prof Dr V Nagaraajan
M.D., MNAMS, D.M., Dsc.,(Neuro), Dsc (Hons)
CHAIRMAN
IEC - Madurai Medical College
Madurai

DEAN
Madurai Medical College
Madurai-20

APPENDIX – III

Letter seeking expert suggestion and tool validation

From,

K. Uma Soundari
M.Sc[N] –I I year [Br-II. Child Health Nursing]..
College of Nursing,
Madurai Medical College, Madurai – 20.

To,

Respected Madam / Sir,

Sub: requesting opinion and suggestion of experts for content validity of tool for **"A Study to evaluate the effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among caregivers in pediatric ward GRH Madurai**

- - - - - - - -

I am O.Selvarajan. II year M.Sc [Nursing] student in College of nursing, Madurai Medical College, Maduai. In partial fulfilment of Master Degree in Nursing, I Have Selected the topic for the dissertation to submit to the Dr. M.G.R. Medical University, Chennai. I request you to kindly validate ther tool and give your expert opinion for necessary modification and I would be very grateful if you could refine the problem statement and the objectives.

Thanking you.

Place : Madurai
Date :

Yours sincerely,

[K. UMA SOUNDARI]

Enclosure:

Statement of the Problem

Objectives

Research tool : 1. Sociodemographic profile

2. Observation checklist

APPENDIX – IV

CERTIFICATE OF VALIDATION

This is to certify that tha tool,

Section A: Socio-demographic data

Section B: Modifed observation checklist for evaluation of aspiration during feeding in cerebral palsy children.

Prepared by Mrs.K.Uma Soundari I Year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken the study field titled **"A study to evaluate the effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among caregivers in pediatric ward, GRH,Madurai."** has been validated by me.

SIGNATURE OF THE EXPERT: 03/03/2017

DESIGNATION:

NAME: Dr. K. MATHIARASAN MD.D.CH

DATE:

DIRECTOR
INSTITUTE OF CHILD HEALTH &
RESEARCH CENTRE
GOVT. RAJAJI HOSPITAL
MADURAI-625020

CERTIFICATE OF VALIDATION

This is to certify that tha tool,

Section A: Socio-demographic data

Section B: Modifed observation checklist for evaluation of aspiration during feeding in cerebral palsy children.

Prepared by Mrs.K.Uma Soundari I Year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken the study field titled **"A study to evaluate the effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among caregivers in pediatric ward, GRH,Madurai."** has been validated by me.

SIGNATURE OF THE EXPERT:

Dr. B. HEMANTHKUMAR, M.S.,M.Ch.,
Professor & HOD
Dept. of Paediatric Surgery
Govt. Rajaji Hospital &
Madurai Medical College, Madurai-20

DESIGNATION:

NAME:

DATE: 03/3/2017

CERTIFICATE OF VALIDATION

This is to certify that the tool

Section A : Socio-demographic data.

Section B : Observation checklist of evaluation of caregiver's performance for prevention of risk of aspiration during feeding in cerebral palsy children.

Prepared by Mrs. K. Uma Soundari II Year Msc(N) student, college of Nursing, Madurai Medical College, Madurai, who has undertaken the study field titled " **A study to evaluate the effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among caregivers in pediatric ward , Government Rajaji Hospital Madurai** " has been validated by me.

R. Jothi Lakshmi

SIGNATURE OF THE EXPERT :

DESIGNATION: Reader

NAME ; R. JOTHILAKSHMI

R. JOTHI LAKSHMI, M.Sc.,(N)Ph.D.
Associate Professor
Sacred Heart Nursing College
MADURAI - 20

DATE ;

CERTIFICATE OF VALIDATION

This is to certify that the tool

Section A : Socio-demographic data.

Section B : Modified Observation checklist for evaluation of risk of aspiration during feeding in cerebral palsy children.

Prepared by Mrs. K. Uma Soundari II Year Msc(N) student, college of Nursing, Madurai Medical College, Madurai, who has undertaken the study field titled " **A study to evaluate the effectiveness of assisted feeding practices on prevetion of aspiration in cerebral palsy children among caregivers in pediatric ward , GRH Madurai** " has been validated by me.

N. Jessy

SIGNATURE OF THE EXPERT :

DESIGNATION: PROFESSOR.

NAME ; Dr. N. JESSIE. M.Sc., Ph.D.(N).,
CSI JEYARAJ ANNAPACKIAM
COLLEGE OF NURSING,
MADURAI.

DATE ;

CERTIFICATE OF VALIDATION

This is to certify that tha tool,

Section A: Socio-demographic data

Section B: Modifed observation checklist for evaluation of aspiration during feeding in cerebral palsy children.

Prepared by Mrs.K.Uma Soundari I Year M.Sc (N) student, College of Nursing, Madurai Medical College, Madurai, who has undertaken the study field titled **"A study to evaluate the effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among caregivers in pediatric ward, GRH,Madurai."** has been validated by me.

SIGNATURE OF THE EXPERT: 02/03/17

PRINCIPAL
MADURAI APOLLO COLLEGE OF NURSING
ELIYARPATHI VILLAGE
MADURAI SOUTH TALUK, MADURAI-22.

DESIGNATION: Principal

NAME: Dr. A. HELEN M PERDITA.

DATE: 02/03/2017.

CERTIFICATE OF VALIDATION

This is to certify that the tool

Section A : Socio-demographic data.

Section B : Modified Observation checklist for evaluation of risk of aspiration during feeding in cerebral palsy children.

Prepared by Mrs. K. Uma Soundari II Year Msc(N) student, college of Nursing, Madurai Medical College, Madurai, who has undertaken the study field titled " **A study to evaluate the effectiveness of assisted feeding practices on prevetion of aspiration in cerebral palsy children among caregivers in pediatric ward , GRH Madurai** " has been validated by me.

N. Jessy

SIGNATURE OF THE EXPERT :

DESIGNATION: PROFESSOR.

NAME ; Dr. N. JESSIE. M.Sc., Ph.D.(N).,
CSI JEYARAJ ANNAPACKIAM
COLLEGE OF NURSING,
MADURAI.

DATE ;

APPENDIX – V

Informed consent form

ஒப்புதல் அறிக்கை

பெயர்: தேதி:

எனக்கு இந்த ஆய்வைப் பற்றிய முழு விவரம் விளக்கமாக எடுத்துரைக்கப்பட்டது. இந்த ஆய்வில் பங்கு பெறுவதில் உள்ள நன்மைகள் மற்றும் தீமைகள் பற்றிநான் புரிந்து கொண்டேன். நான் இந்தஆய்வில் தானாகவே முன்வந்து என ---------- பங்குபெற சமமதிக்கிறேன். மேலும் இந்த ஆய்வில் இருந்து எந்தநேரமும் விலகிக் கொள்ள முழு அனுமதி வழங்கப்பட்டுள்ளது. என் ---------- னுடைய சிகிச்சை ஆவணங்களைப் பார்வையிட்டு அதில் உள்ள விவரங்களை ஆய்வில் பயன்படுத்திக் கொள்ள அனுமதி அளிக்கின்றேன். என் ---------- னுடைய பெயர் மற்றும் அடையாளங்கள் ரகசியமாக வைத்துக் கொள்ளப்படும் என்றும் எனக்கு உறுதியளிக்கப்பட்டுள்ளது.

கையொப்பம்

APPENDIX VI

Research Tool – English

Name : **Age :** **sex :** **IPNO**

OBSERVATION CHECKLIST

S.NO	Feeding techniques	Yes	No
1.	Is the mother keeps the child in Proper Positioning Semiprone Hip knees bent 30 degree (Infant) / Semiupright hip, knees bent at 90 degree (older chldren)	**1**	**0**
2	Is the mother place in Head facing forward/neck flexion	**1**	**0**
3	Is the mother maintains child's jaw control support **Front oral control** use non dominant thumb on chin.middle finger under the chin. **Side oral control** Index finger on chin.middle finger under chin.	**1**	**0**
4.	Does the mother gives firm pressure on the child's tongue	**1**	**0**
5.	**Consistency of food** Child is able to take Solid/Liquid/ Semi solid	**1**	**0**
6	While the mother gives the feeding, child did not Cough/choking	**1**	**0**
7	While mother gives the feeding, child did not Regurgitation	**1**	**0**
8	While mother gives the feeding, child did not Drooling	**1**	**0**
9	While mother gives the feeding, child did not vomiting	**1**	**0**

10	When mother gives the feeding, child does not develop tachypnea.	**1**	**0**
11	Does the mother gives peri oral massage / oral stimulation	**1**	**0**
12.	After the feeding child keeps proper repositioning the child	1	0

Total score 12 Maximum score 12 minimum score 0

Score interpretation

0-4 - poor feeding practices

5-8 - Fair feeding practices.

9-12 -Good feeding practices**.**

SOCIO DEMOGRAPHIC VARIABLE

1. Age of the Mother

a) 20 -30 yrs.

b) 31-40yrs.

c) 41-50 yrs.

d) More than 50

2. Age of the child

a) 1year to 2 yrs.

b) 2 year to 4 years.

c) 5 years to 6years.

3. Sex of the child

a) male.

b) Female.

4. Birth order of the child.

a) I child

b) II child

c) III child.

d) IV child.

e) V child.

5 Any other family members affected by cerebral palsy.

a). siblings

b) Parents.

c) Relatives.

d)None

6. Number of children in their family.

a) 1

b) 2

c) 3

d) 4

e) 5

7. Type of family

a) Nuclear

b) Joint

8. Education of Mother

a) No formal education.

b) primary education

c) secondary education

d) Higher secondary education.

e) Graduate

9. Occupation of the Father

a) Labour.

b) Private.

c) Own business

d) Government.

10. Family income

a) 2000 to 4000 per month.

b) 5000 to 7000 /month.

c) 8000 to 10000/month.

11. Place of residence

a) Urban

b) Rural

c) Semi urban

12. Nature of delivery

a) Normal.

b) Caesarian.

c) Forceps

13. Type of cerebral palsy

A) Spastic

B) Ataxic

c) Atheoid

e) Mixed

தன்னிலை விபரக் குறிப்பு

பிரிவு - அ

1) தாயின் வயது

அ) 20 – 30

ஆ) 31 – 40

இ) 41 – 50

ஈ) 50 வயதுக்கு மேல்

2) குழந்தையின் வயது வருடங்களில்

அ) 1 முதல் 2 வருடம்

ஆ) 3 முதல் 4 வருடம்

இ) 5 முதல் 6 வருடம்

3) குழந்தையின் பாலினம்

அ) ஆண்

ஆ) பெண்

4) குழந்தையின் பிறப்பு வரிசை

அ) முதலாவது

ஆ) இரண்டாவது

இ) மூன்றாவது

ஈ) நான்காவது

உ) ஐந்தாவது

5) குடும்பத்தில் யாரேனும் பெருமூளை வாதத்தால் பாதிக்கப்பட்டு இருக்கிறீர்களா?

அ) உடன்பிறப்புகள்

ஆ) பெற்றோர்

இ) உறவினர்கள்

ஈ) இல்லை

6) குடும்பத்தில் உள்ள குழந்தைகளின் எண்ணிக்கை

அ) 1

ஆ) 2

இ) 3

ஈ) 4

உ) 5

7) குடும்ப வகை

அ) தனிக்குடித்தனம்

ஆ) கூட்டுக் குடும்பம்

8) தாயின் கல்வி நிலை

அ) படிக்காதவர்

ஆ) ஆரம்ப கல்வி

இ) உயர்நிலை கல்வி

ஈ) பட்டதாரி

9) தகப்பனாரின் தொழில்

அ) கூலித் தொழிலாளி

ஆ) தனியார் நிறுவனம்

இ) அரசு வேலை

ஈ) சுய தொழில்

10) குடும்பத்தின் மாத வருமானம்

அ) இரண்டாயிரம் முதல் நான்காயிரம் வரை

ஆ) ஐந்தாயிரம் முதல் ஏழாயிரம் வரை

இ) எட்டாயிரம் முதல் பத்தாயிரம் வரை

11) வசிக்கும் இடம்

அ) மாநகரம்

ஆ) நகரம்

இ) கிராமம்

12) குழந்தையின் பிறப்பு நிலை

அ) சுகப் பிரசவம்

ஆ) அறுவை சிகிச்சை முறை

இ) ஆயுதம்

13) பெருமூளை முடக்குவாதத்தின் வகை

அ) கால் அதிகமான தசை இறுக்கம்

ஆ) கால் தசைகள் வலுவின்மை
மற்றும் ஒருங்கிணைப்பு இல்லாமை

இ) உடல் தசைகளள் கட்டுக்குள் இல்லாமை

ஈ) இரண்டும் கலந்த வகை

APPENDIX – VII

Research Tool – Tamil

பெரு மூளை முடக்கு வாத குழந்தைகளின் உணவு ஊட்டும் முறைகளை சரிபார்க்கும் ஆராய்ச்சி சரிபார்ப்பு பட்டியல்

வ. எண்	உணவு மேற்கொள்ளும் செயல்முறைகள்	செயல்படுத்தப் பட்டது	செயல்படுத்தப் படவில்லை
1.	அம்மா குழந்தையை சரியான நிலையில் அமர வைத்தல். சாய்வாக ஒருக்களித்த நிலையில் குழந்தையை அமர வைத்தல் (1 வயது மற்றும் 1 வயதுக்கு மேல் உள்ள குழந்தைகள்) இடுப்பு மூட்டு 30° கோண நிலையில் இருத்தல். சாய்ந்த நிலையில் அமர வைத்தல் இடுப்பு மற்றும் மூட்டு 90° கோண நிலையில் இருத்தல். (2 வயதுக்கு மேல் உள்ள குழந்தைகள்.	1	0
2.	அம்மா குழந்தையின் தலையை முன்னோக்கி கழுத்து குனிந்த நிலையில் வைத்தல்.	1	0
3.	அம்மா குழந்தையின் தாடையை கட்டுக்குள் வைத்தல். முன் அமர்ந்து தாடையை கட்டை விரலால் பிடித்து அழுத்தம் கொடுத்தல். பின்புறமாக கையை வளைத்து தாடைக்கு அழுத்தம் கொடுத்தல்.	1	0
4.	அம்மா குழந்தையின் நாக்கில் உணவு ஊட்டும்போது அழுத்தம் கொடுத்தல்.	1	0
5.	உணவின் தன்மை : திரவம் / திடம் / திட திரவநிலை	1	0
6.	அம்மா உணவு ஊட்டும் போது குழந்தைக்கு இருமல் வரவில்லை.	1	0
7.	அம்மா உணவு ஊட்டும்போது குழந்தைக்கு புரையேறுதல் இல்லை.	1	0

வ. எண்	உணவு மேற்கொள்ளும் செயல்முறைகள்	செயல்படுத்தப் பட்டது	செயல்படுத்தப் படவில்லை
8.	அம்மா உணவு ஊட்டும் போது குழந்தைக்கு எருக்ககளிக்கவில்லை.	1	0
9.	அம்மா குழந்தைக்கு உணவு ஊட்டும்போது வாயில் எச்சில் ஒழுகவில்லை.	1	0
10.	அம்மா குழந்தைக்கு உணவு ஊட்டும்போது மூச்சு திணறல் இல்லை.	1	0
11.	அம்மாவால் குழந்தைக்கு வாய் தசை பயிற்சி கொடுக்கப்பட்டது.	1	0
12.	அம்மாவால் குழந்தைக்கு உணவு ஊட்டிய பிறகு சரியான நிலையில் அமர வைக்கப்பட்டது.	1	0

மதிப்பெண்

0-4 : குறைந்த அளவே உணவு ஊட்டும் பயிற்சி மேற்கொண்டார்.

5-8 : போதுமான அளவே உணவு ஊட்டும் பயிற்சி மேற்கொண்டார்.

9-12 : சிறந்த முறையில் உணவு ஊட்டும் பயிற்சி மேற்கொண்டார்.

APPENDIX – VIII

CERTIFICATE OF ENGLISH EDITING

TO WHOM SOVER IT MAY CONCERN

This is to certify that the dissertation **"A Study to evaluate the effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among care giver's in Pediatric ward at Government Rajaji Hospital , Madurai ."** done by Mrs K. UMA SOUNDARI, II year M.Sc (N) Student, College of Nursing, Madurai Medical College, Madurai -20. Has been edited for English language appropriateness.

Signature

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APPENDIX – IX

CERTIFICATE OF TAMIL EDITING

TO WHOM SOVER IT MAY CONCERN

This is to certify that the dissertation **"A Study to evaluate the effectiveness of assisted feeding practices on prevention of aspiration in cerebral palsy children among care giver's in Pediatric ward at Government Rajaji Hospital , Madurai ."** done by Mrs.K. UMASOUNDARI. II year M.Sc (N) Student, College of Nursing, Madurai Medical College, Madurai -20. Has been edited for Tamil language appropriateness.

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Designation : P.G. ASST (தமிழ்)

Date : 16/4/17

APPENDIX X

DEMONSTRATION FOR FEEDING TECHNIQUES IN CEREBRAL PALSY CHILDREN

Most children with cerebral palsy (CP) have trouble eating, especially as infants and young Children.

Positioning:

Normalise tone or decrease abnormal influence on the body. 2) Maintain skeletal alignment. 3) Prevent, accommodate or correct skeletal deformity. 4) Provide stable base of support to promote function. 5) Promote increased tolerance of desired position 6) Promote comfort and relaxation. 7) Facilitate normal movement patterns or control abnormal movement patterns. 8) Manage pressure or prevent the development of pressure sores. 9) Decrease fatigue 10) Enhance autonomic nervous system function (cardiac, digestive and respiratory function) 11) Facilitate maximum function with minimum pathology.

Semiprone position 30 degree angle

Hip and knees bent 30 degree angle

Semi upright position

Head Facing forwards and neck long forwards Hips and knees bent at 90 degree. caregivers in comfortable with a cushion under supporting elbow. Keep the upper arm firmly against the top of the head and not behind her neck. Make sure can see the elbow. Hold the child's bottom firmly between the legs so that child cannot push back.

Semi upright position 90 degree angle

Support her knees with one leg and her back with the other raise the leg that is supporting her back by putting some thing under the foot. To make her back straight. Bring child's arm forward

So that her shoulders also come forward.Sitting on the floor.

Try to sit with back against a wall to rest of back child keep upper arm firmly against the top of the child 'behind the neck. Make sure can see the elbow. Put a cushion under raised knee to keep our self comfortable and to keep back straight.

Chair seat and back should be at 90 degrees and child maintained upright.

Hips and knees feet in 90 degrees flexion. Feet kept in stable. Solid surface been provided. Head in a chin tuck position.. For the bigger child or for one who pushes back very strongly try resting the bottom firmly on the floor and then push the legs up towards her chest. Place the leg firmly across the feet to hold them flat on the floor. A to b seat like this can give the child all the body support that she needs leaving us free to concentrate on feeding technique.

Position for feeding the child on her mother's lap are likely to be very difficult with older bigger children and are more suitable for younger children. This position will make feeding either easier and safer or more difficult und and unsafe

Jaw control support

Sit in front of the child or infant for eye contact.

Use non-dominant hand thumb on chin. Middle finger under chin.

Side oral control

Right handed feeder sits on the left side of the child**.** Use non-dominant hand, Index finger on chin. Middle finger under chin. Don't exert too much pressure. Don't push the child into extension.

Oral control may influence the stability and movement of the oral structures needed for feeding. oral control can aid mouth closure inhibit oral reflexes and facilitate jaw tongue and lip movements for feeding. While limiting abnormal movements of the oral structures for feeding.

Perioral massage

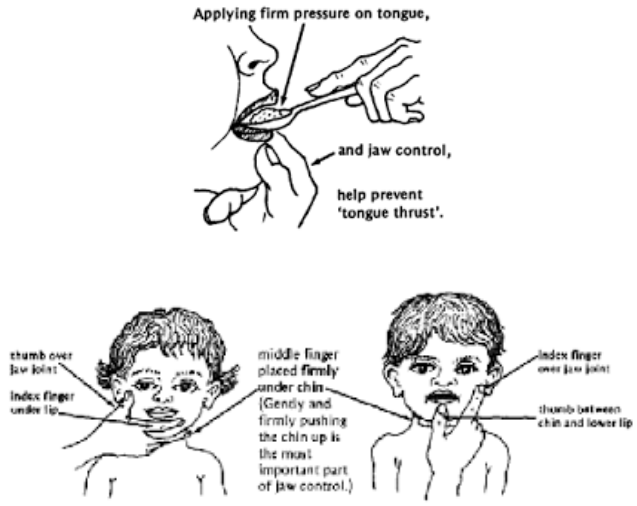
Gently make circular movements on the child's cheeks with the fingers. Its stimulate the oral muscles,and improves the oromotor function.

Buccinator muscle used for blowing activitites.

Mastoid muscle used for biting, orbicularis oris muscle used for closes the mouth. Buccal muscle receiving the food and mastication of the foods. Also mentalis muscle zygomaticus mucle used for oromotor functions.

Chewing

If child is unable to chew solid food like rice roti or biscuits, start by giving semisolid food like mashed potato, boiled apple, suji and milk. Gradually introduce to the child to normal solid food. Help to the child to learn to chew by placing the food in oneside of the mouth between the child's cheek and teeth.



Biting

Help to the child to learn to bite by placing the food between then teeth. Can sit by side of the child and place the arm around the neck. Close the mouth by gently pushing the chin upward. very careful not to push the head back

Swallowing

Seat him comfortably keep the head well forward while the child is being fed. Help to the child to swallow stroke the child's throat gently with the fingers. Make sure that the keep the head bent slightly forward.

Choking

If the child chokes bend the body forward and downward. Never tap the child on the back or on the child's head it may make it worse

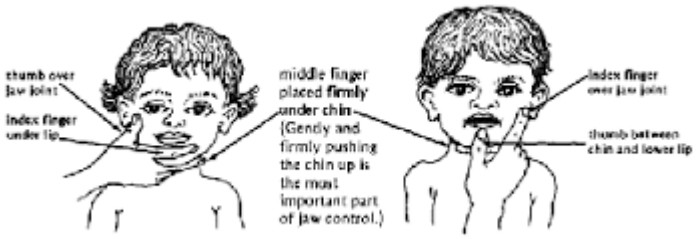
Make sure that child is in an upright position. This is necessary whether the child is sitting on mother's lap.

Drooling

One way to decrease drooling is to continuously remind the child to close the mouth and swallow**.**

Help to the child to close he child's mouth by gently pressing the lips together while the food in the child's mouth. After child has chewed the food gently stroke his throat with the fingers.this will help to the child to swallow.

Tongue pressure on the tongue



Place the spoon under the tongue to prevent the spillage of the food. Tongue control and lip control in the evolution of biting and chewing. Abnormal posture and movements should be avoided. That is tongue thrusting, jaw opening or head titled back.

Feeding with spoon

Do not put too much food on the spoon This is particularly important if the child has a tendency to push food out of the mouth with the tongue. Spoon feeding of semisolids development of chewing sucking and swallowing of liquids this sequence begins with either breast or bottle feeding progresses to drinking from a cup. Early stages of spoon feeding before the upper lip is able to remove food from the spoon.

Observe the feeding problems

Observe the child's feeding problems such as Coughing, choking, nasal regurgitation , vomiting, tongue thrust, jaw thrust, tonic bite lip retraction, tongue retraction crying, struggling, increased muscle tone fear, avoidance patterns of head turning, make the child is in an appropriate state for eating. The child should be calm quiet but alert. The most important rule for planning feeding programe.lip closure is strongly related to the patterns of flexion.

Observe the feeding problems,

Sucking, swallowing, biting and swallowing, lips not closure, Inability to control food liquids or saliva in oral cavity, drooling coughing, choking gurgle voice,, vomiting, spillage of foods all those things to be observed.

Consistency of the foods

Not too runny, not too hard, solid semi solid liquids, small frequent meals , smooth texture of foods can manage of the child.

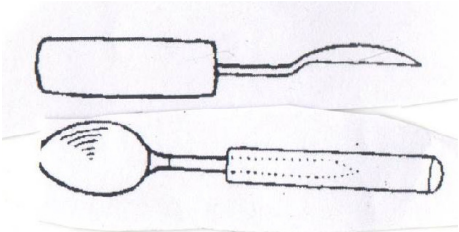
Give to the child small mouthfuls of food and small sips of water slowly, positive verbal encouragement to the child

Not to force the child.

Type of utensils.

Medium handles spoons, which is neither too big nor too small for child.

Not too deep, it should be unbreakable. Make a thick handle inserting the spoon into cylindrical piece. Of wood. Pad the handle with sponge or wrap a cloth around it.



Plates

Use a thali with a high edge or a bowel this will make it easier for the child to scoop the food with a spoon.

Oral stimulation

Stimulate the oromotor with nooth brush put the lemon in inside the mouth stimulate the taste.

Cleaning of the mouth

With the use of mouth gag to clean the mouth. Prevent the oral cavity infection of the child.

செய்முறை கையேடு

பெருமூளை வாதத்தால் பாதிக்கப்பட்ட குழந்தைகளுக்கு உணவு ஊட்டும் முறைகள்

பெருமூளை வாதத்தால் பாதிக்கப்பட்ட குழந்தைகளுக்கு சாப்பிடுவதில் சிரமம் இருக்கும். அதை நிவர்த்தி செய்யும் 5 வழிமுறைகள்.

1. பயிற்சியின் மூலம் வாய் தசைகளை வலுப்படுத்துதல்.
2. சரியான நிலையில் அமர வைத்தல் மூலம் கழுத்து மற்றும் உடம்பு சரியான கோணத்தில் இருத்தல்.
3. மென்மையான உணவுகளை தருதல்.
4. உடலை வாய் தசைகள் பயிற்சியின் மூலம் சாப்பிடும் திறன் உணர்ச்சியை தூண்டிவிடுதல்.
5. உணவு ஊட்டுவதற்கான பொருந்திய கிண்ணம் மற்றும் உபயோகிப்பதன் மூலம் உணவு சாப்பிடும் திறன் அதிகமாகும்.

அமர வைக்கும் நிலை

1) தசைகளை வலுப்படுத்துதல்.
2) சரியான நிலையில் உடல் இருத்தல்.
3) வசதியாகவும், அமருதல்.
4) அசதியை குறைத்தல்.
5) உடலியகத்தின்படி அதன் வேலைகளை சரியாக இயங்க உதவி செய்கிறது.

சாய்வான நிலையில் படுக்க வைத்தல் 30^{0} ஒருக்களித்தல் கோணநிலை :

குழந்தையை சாய்வான நிலையில் 30^{0} கோணநிலையில் படுக்க வைத்து தலையை முன்னங்கையில் உயர்த்தி வைத்து உணவு தரவேண்டும். இதனால் குழந்தைக்கு ஏதுவாக இருக்கும்.

பாதி நேராக உட்கார்ந்த நிலையில் தருதல் 90ழ கோண நிலை

தலை முன்னோக்கி, இருத்தல், இடுப்பு மற்றும் மூட்டு 90ழ கோண நிலையில் வளைந்து இருத்தல்.

உணவு தருபவர் வசதியாக அமருதல்.

உணவு தருபவர் கை குழந்தையின் தலையை சுற்றி வைத்துக் கொள்ளுததல்.

குழந்தையின் உடம்பு உணவு தருபவரின் கால்களுக்கு இடையில் அண்டை கொடுத்து கொள்ள வேண்டும்.

குழந்தையை சாய்வான நிலையில் பின்பக்கம் அண்டை கொடுத்து அமர வைத்தல்.

குழந்தையின் கைகள் முன்னோக்கி இருத்தல் இடுப்பு மற்றும் மூட்டுகள் 90ழ கோண நிலையில் வளைந்து இருத்தல். இந்த நிலையில் உணவு தருதல் குழந்தைகளுக்கு ஏதுவாகவும், பாதுகாப்பாகவும் இருக்கும்.

தாடையை கட்டுக்குள் வைத்தல் :

குழந்தையின் முன் அமர்ந்து தாடையை கட்டை விரலால் பிடித்து அழுத்தம் கொடுத்தல்.

பின்புறமாக கையை வளைத்து தாடைக்கு அழுத்தம் கொடுத்தல்.

தாடையை கட்டுக்குள் வைக்கும் போது குழந்தையின் வாய் மூடுதல் நிலை நாக்கு மற்றும் உதடுகளின் இயக்கம் சரியான முறையில் இருக்கும்.

வாய் தசைகள் பயிற்சி :

மென்மையாக குழந்தையின் வாயின் கன்னத்தின் இருபக்கமும் வட்ட வடிவ முறையில் தசை பயிற்சிகள் பண்ணும்போது வாயைச் சுற்றியுள்ள அனைத்து தசைகளும் நல்ல முறையில் இயங்கி உணவு பெறுவதற்கும் சுவைப்பதற்கும், முழுங்குவதற்கும் ஏதுவாக அமையும்.

சவைத்தல் பயிற்சி :

மெதுவாக குழந்தைக்கு உணவை வாயின் ஒருபுறமாக உணவை வைத்து குழந்தையின் கன்னத்திற்கும், பற்களுக்கும் இடையில் வைத்து சவைத்தல் பயிற்சி தர வேண்டும்.

கடித்தல் பயிற்சி :

குழந்தையின் வாயில் உணவு பற்களுக்கு இடையில் வைத்து விட்டு மெதுவாக குழந்தையின் வாயை மூட தாடையை உயர்த்தல் வேண்டும். ஆனால் தலையை பின்பக்கம் தள்ளக்கூடாது.

முழுங்குதல் பயிற்சி :

குழந்தையை வசதியாக அமர வைத்து தலையை முன்னோக்கி வைத்துக் கொண்டு உணவு தருதல், உணவு தரும்போது விரல்களால் தொண்டையை தடவி கொடுக்க வேண்டும். தலையை குனிந்த நிலையில் முன்னோக்கி இருக்க வைக்க வேண்டும்.

புரையேறுதல் தடுக்கும் முறைகள் :

குழந்தைக்கு புரையேறுதல் வராமல் இருக்க குழந்தையை முதுகுக்கு பின்னாடி தட்டக்கூடாது. குழந்தைக்கு சிரமத்தை கொடுக்கும். உணவு தந்தபின் குழந்தையை சரியான முறையில் அரை மணி நேரம் உட்கார வைத்தல் வேண்டும்.

எச்சில் ஒழுகுவதை தடுக்கும் முறைகள் :

குழந்தையின் உதடுகள் இரண்டையும் விரல்களால் ‘வி’ வடிவில் மூட வேண்டும்.

நாக்கை கட்டுக்குள் வைத்தல் :

மிக சிறிய தேக்கரண்டியை நாக்கின் அடியில் அழுத்தம் கொடுத்து உணவு தருதல் வேண்டும். நாக்கு மற்றும் உதடு சரியான

நிலையில் இயங்கும் போது தான் உணவு ஊட்டுவதற்கு ஏதுவாக இருக்கும்.

தேக்கரண்டி மூலம் உணவு தருதல் :

இதனால் சவைத்தல், முழுங்குதல் தன்மை அதிகமாகும். குறைவான உணவு வைத்து தருதல் வேண்டும்.

உணவு தரும்போது கவனிக்க வேண்டியவை :

இருமல், புரையேறுதல், மூக்கின் வழியாக எருக்களித்தல், வாந்தி எடுத்தல், நாக்கு மடித்தல், தாடை மற்றும் உதடு வெளிநோக்கி இழுத்தல், மூச்சு திணறல், தசைகளின் தன்மை இவைகளை கவனிப்பது அவசியமாகிறது. குழந்தை அமைதியாகவும், துடிப்பாக உள்ளதா என கவனிக்க வேண்டும்.

உணவு தரும்போது கவனிக்க வேண்டிய குழந்தையின் சிரமங்கள்:

சவைத்தல், கடித்தல், முழுங்குதல், உதடு மூடாமல் இருத்தல், எச்சில் ஒழுகுதல், புரையேறுதல், உணவு துப்புதல், வாந்தி எடுத்தல், குழந்தையின் குரலில் மாற்றம்.

உணவின் தன்மை :

உணவு திடமாகவும், திரவமாகவும் இருக்க வேண்டும். மிக திரவமாகவோ, மிக கடினமாகவோ இருக்கக் கூடாது.

சிறிய அளவில் உணவு அடிக்கடி தருதல் வேண்டும். நீர் சிறிய அளவில் அடிக்கடி தருதல் வேண்டும். குழந்தைக்கு அதிகமாக உணவை தள்ளக்கூடாது.

உணவு தரும் பாத்திரங்கள் :

நடுத்தர அளவான தேக்கரண்டிகள் மிக பெரியதாக இருக்க கூடாது. மிக சிறியதாகவும் இருக்க கூடாது. மிக ஆழமாக இருக்க கூடாது. தேக்கரண்டியின் கைப்பிடி மென்மையாக இருத்தல் வேண்டும்.

APPENDIX - XI